finish

THE MAGAZINE OF

Appliance AND

Metal Products MANUFACTURING

Patterson ARLCITE assures 50% (or more) reduction in grinding time.

—with

Patterson PEBBLE and BALL MILLS

Supplied with Patterson ARLCITE (high density) Linings and ARLCITE (high density) Grinding Balls, or with POROX (standard density) Linings and Balls.

High Density Linings and High Density Grinding Balls were FIRST DEVELOPED BY PATTERSON and have been in operation since 1938.

Richard L. Cameron
President

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.

NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI, ATLANTA, CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE

The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

Only PORCELAIN ENAMEL
gives your product all this...

TOUGH AND DURABLE. Even whirling roller skates fail to mar this counter top made of porcelain enamel on Armco Enameling Iron. Other surface finishes often scratch or peel.

RESISTS HEAT. Burning cigarettes or searing skillets don't damage the rock-like surface of porcelain enamel. It doesn't discolor when subjected to ordinary temperatures.

EASY TO CLEAN. Stains from crayons or lipstick wipe away easily with a damp cloth. The surface of porcelain enamel on Armco Enameling Iron is hard, smooth, non-porous.

and COLOR too

No other material can match the beauty and wear resistance of porcelain enamel and give you a full range of colors too. Can this unique combination of advantages add sales appeal to *your* product?

Write to us for the name of an experienced job enameler near you. You'll find that he can help you work out problems of design and production. You'll find too, that most job enamelers specify Armco Enameling Iron as the base metal for their product. They know that Armco quality stays high from one shipment to the next. That's how it earned its reputation as the "World's Standard Enameling Iron."

ARMCO STEEL CORPORATION
1655 Curtis Street, Middletown, Ohio
Send me the names of job enamelers who can be of assistance.
We manufacture_____

Name_____

Company_____

Street_____

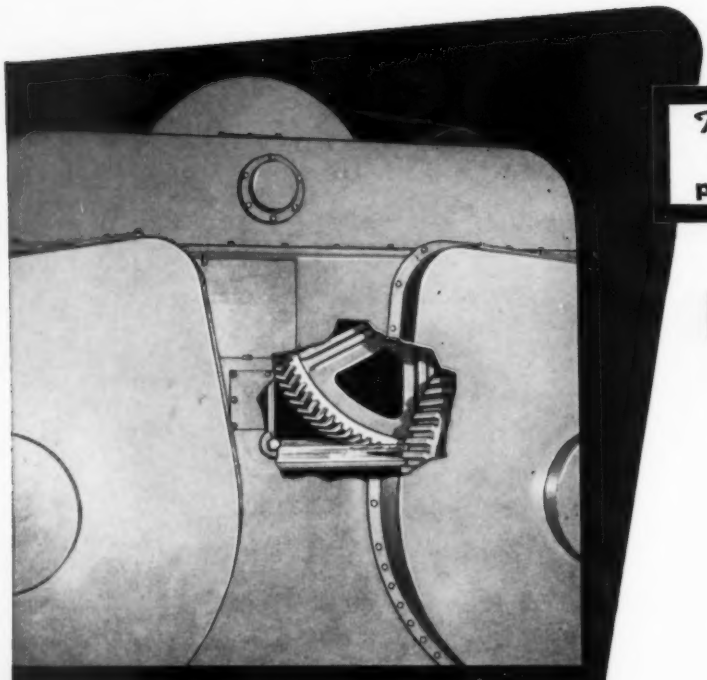
City_____ Zone_____ State_____

ARMCO®

ARMCO STEEL CORPORATION 1655 CURTIS ST., MIDDLETOWN, OHIO

SPECIAL STEELS

SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION



Cutaway showing how herringbone intermediate gears operate in oil bath within the crown.

Cutaway showing Verson main gears and the oil bath in which they operate.

These are the features **that make –Verson– presses your best buy**

DRIVE GEARS

operate in oil bath to assure long life and smooth, efficient operation with

Verson PRESSES

As the cutaway views at the left show, drive gears in Verson presses are fully enclosed and operate in an oil bath.

This is the positive way of insuring effective lubrication. Each tooth of the gear passes through the oil on each revolution to pick up its protective film of oil. For the press user, it is the kind of protection that means smooth, efficient operation throughout a long, trouble-free life.

Gears operating in oil is just one of the many advantages built into Verson Presses to give the user more and better stampings at lower overall cost. Whether you require a single press or an entire stamping plant complete with tooling, be sure to get the whole story of what Verson quality can mean to you.

For specific recommendations, send an outline of your requirements.

Catalogs are available describing the Verson lines. Please write for yours, mentioning the types of presses in which you are interested.

A Verson Press for every job from 60 tons up.

Verson

ORIGINATORS AND PIONEERS OF ALLSTEEL STAMPING PRESS CONSTRUCTION

VERSON ALLSTEEL PRESS CO.

9320 S. KENWOOD AVENUE, CHICAGO 19, ILLINOIS • SO. LAMAR AT LEDBETTER DRIVE, DALLAS, TEXAS

MECHANICAL AND HYDRAULIC PRESSES AND PRESS BRAKES • TRANSMAT PRESSES • TOOLING • DIE CUSHIONS • VERSON-WHEELON HYDRAULIC PRESSES

December • 1955

VOL. 12 • NO. 12

ENGINEERING DETAILS OF A COMBINATION WASHER-DRYER UNIT — Westinghouse WASH-'N-DRY laundromat 23
AGA 37th ANNUAL CONVENTION 34
GAMA 1955 MEETING 37
CURTAIN WALL BUILDING — 1st Security Bank Building, Salt Lake City, Utah 42
PHOSPHATIZING AUTO BODIES AT CHRYSLER 46
SLOW SPEED SAWING OF METALS 49
AHLMA HOME LAUNDRY CONFERENCE 57
PMI ANNUAL MEETING 59
37th NATIONAL METAL EXPOSITION 62
PEI 24th ANNUAL MEETING 69
RESUMES OF FORUM PAPERS 71
SAFE TRANSIT SECTION 93
VERSATILE CRANES SPEED HEAVY DUTY LIFTING 105

FEATURES

INDUSTRY MEETINGS 7
FROM THE EDITOR'S MAIL 11
FINISH SPOTLIGHT — Frigidaire's Imperial refrigerator .. 17
THE FINISH LINE — An Editorial 32
THE SUGGESTION BOX 61
FINISH FOTO-NEWS 64
INDUSTRY NEWS AND PERSONALS 73
NEW LITERATURE 80
NEW SUPPLIES AND EQUIPMENT 82
SUPPLIER NEWS 85

MISCELLANEOUS

INSTITUTE OF APPLIANCE MANUFACTURERS (program) ..107
ADVERTISER'S INDEX 108

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A trade publication devoted to the interests of the metal products manufacturing industry with special editorial attention to home appliances. Includes technical and practical information on plant facilities and manufacturing problems from raw metal to safe delivery of the finished product, with special emphasis on fabrication, metal preparation, metal finishing, assembly, and packaging and shipping.

Free controlled circulation to management, purchasing, engineering and key plant personnel in metal product manufacturing plants. To others, subscription price is $5.00 per year, domestic. To all other countries $8.00 per year (U.S. funds).

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METAL PRODUCTS MANUFACTURING
FROM RAW METAL TO FINISHED PRODUCT

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NOW!

REYNOLDS EXPANDE
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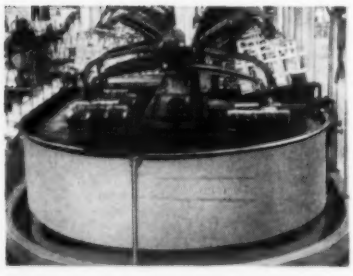
Assure Even Finer Finishes For Aluminum Appliance Pa

MECHANICAL • CHEMICAL • ELECTROLYTIC • PAINT FILMS



Here, refrigerator evaporators are being anodized at a Reynolds plant. Reynolds modern electrolytic finishing equipment is used extensively by appliance manufacturers for highest quality plain and color anodizing. Color anodizing by Reynolds is currently adding tremendous sales appeal to refrigerator evaporators, shelves, pans and trays; range escutcheon plates and aluminum trim parts.

The aluminum appliance parts you are designing now can be finished to meet your requirements by Reynolds Aluminum Fabricating Service—and here's why:

Reynolds existing extensive finishing facilities are currently being augmented by today's latest automatic finishing equipment. This tremendous investment by Reynolds offers you finishing facilities unsurpassed anywhere. It assures you finer finishes on the aluminum appliance parts you design. Gives you new flexibility in your design thinking. And—these new expanded facilities are backed by Reynolds years of technical experience with practically every finishing process and techn applicable to aluminum . . . an Reynolds famous quality co from mine to finished produc

For the highest quality start to "finish", let Reynolds ricate and finish your alumi parts.

For full details on the m types of mechanical, chem electrolytic and paint film fin that Reynolds offers and on many other services offered Reynolds, call the Reynolds listed under "Aluminum" in classified telephone directory. write *Reynolds Aluminum Fa cating Service, 2058 South N Street, Louisville 1, Kentucky*

Buffing, here on deep well cookers, is one type of mechanical finish available from Reynolds. Scratchbrushing, satin finishing, highlighting, embossing and other finishes are also available.

Reynolds can paint entire parts a solid color, mask and paint or do paint filling in combination with mechanical finishing to supply practically any desired texture or highlighting effect.

Alodine system at Reynolds is adaptable immersion, spray or brush type finishing. Elec ing, brightening and other chemical fini treatments are also available at Reynolds.

See Reynolds New Program "Frontier"—Sundays on NBC-TV.

REYNOLDS ALUMINU

BLANKING • EMBOSSING • STAMPING • DRAWING • RIVETING • FORMING • BRAZI

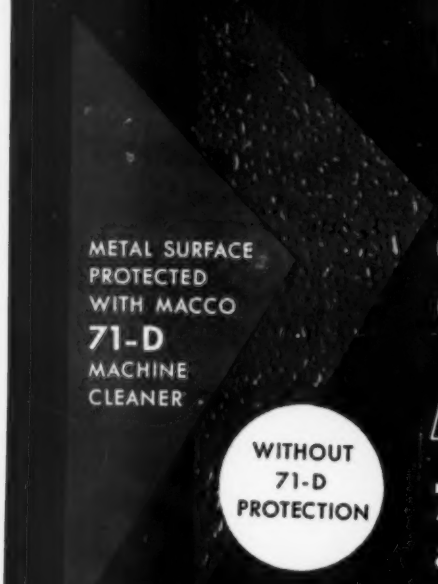
Write to Reynolds address on facing page for your free copy of 20-page brochure "Aluminum Appliance Parts."

UMFABRICATING SERVICE

ROLL SHAPING • TUBE BENDING • WELDING • FINISHING • IMPACT EXTRUDING

MACCO MACHINE CLEANER NO. 71-D

a phosphate cleaner and rust inhibitor GIVES BETTER PAINT ADHESION



71-D prevents rust spread and rust blisters

A MACCO CASE HISTORY*

As in all fields today, purchasers of metal products are constantly demanding more and more in the quality of their paint finishes.

By far the most efficient and economical method of preparing metals for the finest and most enduring paint job is by use of Macco M.C. No. 71-D. Laboratory and shop tests prove that, on steel, cast iron, aluminum or die cast, Macco M.C. No. 71-D provides a corrosion-resistant phosphate coating comparable in quality to that formerly available only through expensive and elaborate methods of preparation.

TESTED ADVANTAGES OF MACCO M.C. No. 71-D CLEANER

1. Cleans soil from metals and etches in one operation.
2. More economical because of longer life of solution.
3. Gives microscopic phosphate coating, greatly aiding in paint adhesion and corrosion resistance.
4. No special equipment required.
5. Never hardens in the drum.
6. Gives excellent protection against rust prior to painting.
7. Simple to control solution.
8. Can be run in conventional one, two, or three stage washers, as well as in other types.

LEADING METAL PROCESSORS indorse its use for . . .

- CAMERAS
- TAPE RECORDERS
- TV CABINETS
- LAWN FURNITURE
- APPLIANCES
- MOLDING
- TOYS, Etc.

Use Macco M.C. No. 71-D Cleaner and Phosphate Coating and add immeasurable quality to the finish of your product.

*Actual case history, names, etc. can be had by writing today to

MACCO PRODUCTS COMPANY

Makers of Better Metal-Working Compounds Since 1931

9210 SOUTH SANGAMON STREET • CHICAGO 20, ILLINOIS

MEETINGS

ASRE ANNUAL MEETING

American Society of Refrigeration Engineers, annual meeting, Traymore Hotel, Atlantic City, December 1-3.

HEATING AND AIR-CONDITIONING MEETING

American Society of Heating and Air-Conditioning Engineers, Inc., annual meeting, Cincinnati, January 23-25.

PLANT MAINTENANCE & ENG. SHOW

Plant Maintenance & Engineering Show, Convention Hall, Philadelphia, January 23-26.

INSTITUTE OF APPLIANCE MFRS. CONFERENCE

Institute of Appliance Manufacturers conference, Netherlands Plaza Hotel, Cincinnati, December 5-6.

HOME FURNISHINGS MARKET

The International Home Furnishings Market, Merchandise Mart, Chicago, January 9-20.

ENAMELERS CLUBS MEETINGS

Midwest Enamelers Club, La Salle Hotel, Chicago, December 3.

Central District Enamelers Club, Hotel Leland, Mansfield, Ohio, January 20.

CONFERENCE ON ARCHITECTURAL AND MAINTENANCE PAINTS

Conference on Architectural and Maintenance Paints, Case Institute of Technology, Tomlinson Hall, Cleveland, January 25-27.

PYRAMID MOULDINGS

Rings for washers...Bezels for television...Dinette trim and aprons...Refrigerator kick plates and escutcheons...Stove back guard trim—Flue grills...Kitchen Counter Mouldings...Sink Rims...Medicine cabinet frames—Towel Bars...Wallboard Mouldings...Frames for luggage. These are but a few of the many products for which PYRAMID has facilities to design, roll, bend, stamp, buff and assemble both decorative and structural mouldings in any metal. Fast service from complete plants in Chicago and California.

Pyramid Mouldings Inc.

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NEW YORK...CALIFORNIA

Write for Pyramid "Plan Book of Metal Mouldings" today!

No one connected with the design or manufacture of any appliance should be without a copy of this book containing hundreds of standard and special mouldings. Send for your free copy today.

Without obligation, please send copy of "Plan Book of Metal Mouldings."

Name_____ Title_____

Firm_____

Address_____

STEEL STAMPING DOES IT BETTER . . . ACKERMANN-WHEELING DOES IT BEST!

There's an idea here for YOU!

This complex stamping is a side of the new "Band Box*," Ackermann-Wheeling's nestable all-steel shipping container.

In addition to being unusually difficult, this stamping represents how one job was carried from conception to completion: solved, tooled, mass produced, assembled . . . all accomplished efficiently, economically.

This will give you some idea of the versatility, ingenuity and completeness of Ackermann-Wheeling's services. It is this resourcefulness that may explain why *Ackermann-Wheeling has never failed to complete a job due to inability to solve it or inability to produce it!*

Put this team of production experts to work for *you*. For complete details on Ackermann-Wheeling services write, wire or call.

Engineered Stampings

"THE BAND BOX" is Ackermann-Wheeling's new fully nestable, self-palletized steel shipping container. Engineered to specific requirements. Send for full details.

* Pat. applied for

ACKERMANN MANUFACTURING COMPANY

WHEELING • WEST VIRGINIA

Season's Greetings
Our sincerest wishes for a HAPPY YULTIDE season ... laden with love, warm friendship and good fellowship.
May the spirit of peace on earth to men of good will prevail during the coming YEAR
... and may health and prosperity be yours.

THE O. HOMMEL CO.

Pittsburgh, Office
209 Fourth Avenue
Pittsburgh, Penna.

Sales representatives throughout the world

West Coast Office
4747 E. 49th Street,
Los Angeles, California

PORCELAIN ENAMELING FURNACE
INSTALLED APRIL 11, 1949
FURNACE BY SURFACE COMBUSTION CORP.
MICROMAX RECORDER BY LEEDS & NORTHRUP CO.
THROTTLING CONTROL BY LINDBERG ENGINEERING CO.
TURBO BLOWER BY NORTH AMERICAN MFG. CO.
MUFFLE AND TOOLS BY FABRICATED ALLOYS CO.
INCONEL USED IN MUFFLE BY INTERNATIONAL NICKEL CO.
CARBOFRAX HEARTH AND PIERS BY CARBORUNDUM CO.
INSULATING FIRE BRICK BY ARMSTRONG CORK CO.
DOOR DRIVE BY GATES RUBBER CO.
OPERATED BY
GEORGE STEERE & SONS
CHICAGO, ILLINOIS
MANUFACTURERS OF
PORCELAIN SIGNS
NAME PLATES, IDENTIFICATION PLATES, Etc.

This furnace for firing porcelain enameled steel signs is completely shut down at night. As a result, its temperature quickly drops from a possible 1580°F to 200°F. Early the next morning, an operator turns the valve wide open and in one hour brings the furnace up to 1100°F. But even these rapid changes in temperature never faze its 6-year-old muffle of Inconel nickel-chromium alloy.

Inconel muffle in enameling furnace still gas-tight after 6 years

...does away with annual rebuilding of muffle made of ceramic

THINGS are a lot different now, at the Chicago plant of George Steere & Sons. Until 1949, somebody had to crawl in the furnace every few months to patch the muffle. Otherwise combustion gases reached the ware being fired. And played havoc with porcelain.

But that wasn't all. Each year, workmen had to tear out the entire muffle. Then build a complete new unit. With shutdowns lasting 10 to 14 days, you can imagine the production losses.

Today nobody ever climbs in and out to patch the muffle . . . to tear it down or build it up. Because the muffle you see up there is made of Inconel* nickel-chromium alloy.

In fact, ever since Steere & Sons installed this larger furnace in 1949, its Inconel muffle has earned plenty of profit. And it's still in use today . . . good and gas-tight after more than six years of continuous use.

Inconel answers many demands

Where you apply high temperature ceramic coatings . . . or wherever equipment of any sort needs great strength to meet severe conditions of heat and corrosion . . . use Inconel nickel-chromium alloy.

This nickel-chromium alloy retains a high degree of strength at high temperatures. It resists damage by oxidation, carburization and other forms of high temperature attack. It also resists grain growth, withstands thermal shock, and in many applications, retains useful properties to 2100°F and over.

What's more, you can form, machine and weld Inconel . . . a nickel-chromium alloy available in all commercial wrought forms. So write for the useful, free booklet, "Keep Operating Costs Down as Temperatures Go Up." Send for *your* copy now and see how Inconel can save you money.

The International Nickel Company, Inc.
67 Wall Street New York 5, N.Y.
*Registered Trademark

INCO TRADE MARK **Nickel Alloys**

Inconel... *for long life at high temperatures*

from the Editor's Mail

interested in Pre-Namel 410

Gentlemen:

We have found the August issue of your excellent journal *finish* most interesting, but we are particularly interested in the new development known as "Parker Pre-Namel 410" designed to eliminate conventional ground coats for porcelain enameling.

It is desired to learn something further regarding this new development, and it would be appreciated if you would kindly put us in touch with the Parker Rust Proof Company.

H. F. Stokes
Ferramic Industries, Ltd.
Herts, England

Parker Rust Proof Company's address is 2177 East Milwaukee Avenue, Detroit 11, Michigan. — Eds.

send information on NST

Gentlemen:

For several months I have noticed the "Safe Transit" section of the Magazine *finish* and references are made regularly about Safe Transit Certificate.

We are naturally interested in safe transit of our merchandise and would be interested in the requirements on testing methods.

Would you please give me more information? We manufacture commercial cooking equipment.

C. C. Coy
Vice President & Treasurer
Vulcan-Hart Mfg. Company
Louisville, Kentucky

Complete information is on the way from *finish* and the NST Washington office. We will look forward to announcement of another certified company in the NST cooperative program. — Eds.

need extra copy of August issue

Gentlemen:

Have a request for an extra copy of the August issue of *finish* Magazine for purpose of reference. Should you have a copy, would you please mail it to Hussman Refrigerator Company to the attention of Mr. W. A. Vornehr, Vice President, Manufacturing Production? Thanks very much. . .

M. E. McHardy
Supt. Enamel Department
Hussmann Refrigerator Co.
St. Louis, Missouri

We have found a slightly "beat up" copy of the August issue of *finish*, and it is going in the mail at once for Mr. Vornehr. — Eds.

. . . or anything in-between . . .

ASSEMBLED PRODUCT

Follansbee's Sheet Metal Specialty Division is now equipped to produce from raw stamping to completely fabricated, finished, assembled and packaged product—even though the stamped metals are only a minor part of the completed job!

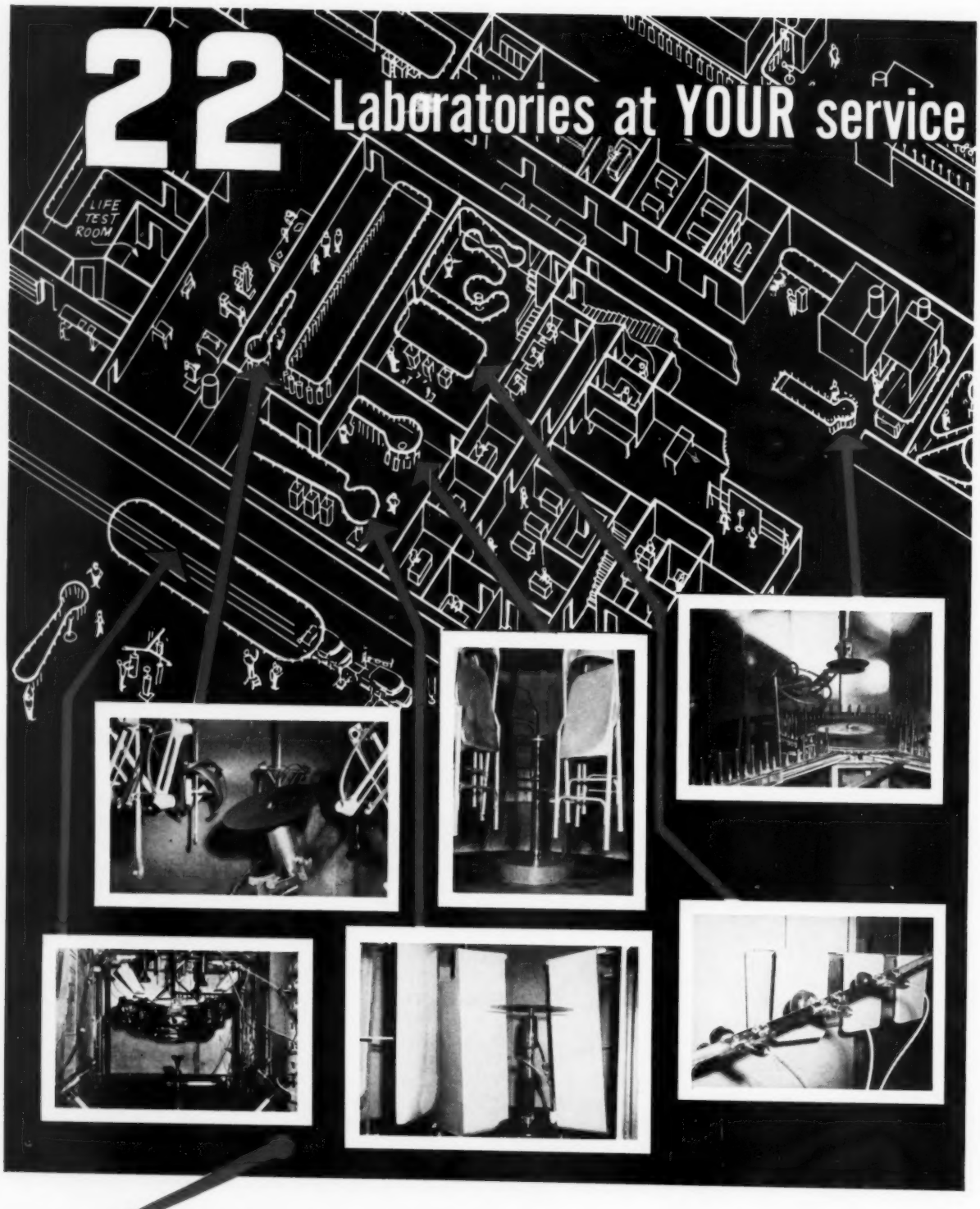
No matter what your requirements are or how intricate your specifications, Follansbee engineers will work with you in designing or redesigning your component parts. Complete tool room and die making facilities are available as well as one of the most modern finishing and assembling lines in the industry.

Call Follansbee engineers in early to discuss your stamping problems. A cost analysis on your job will be submitted without obligation.

SHEET METAL SPECIALTY DIVISION

FOLLANSBEE
STEEL CORPORATION

BOX 567 • FOLLANSBEE, WEST VIRGINIA



YOUR JOB, LIKE THESE SHOWN ABOVE, WILL BE TEST PROVEN

under simulated production conditions to determine cost-saving benefits and other advantages. Ransburg also maintains other test facilities in Los Angeles, London, England; Bad Hersfeld, Germany; Paris, France and Sydney, Australia.

to prove the painting of YOUR products with

RANSBURG

Electrostatic Painting Processes

Let us make laboratory tests and prove the advantages and cost-saving benefits of painting YOUR products AUTOMATICALLY with one of the Ransburg Electro-Spray Processes.

GET THE FACTS . . . IT COSTS YOU NOTHING!

STEP BY STEP—HERE'S WHAT YOU GET . . .

- Survey of your plant by Ransburg's experienced field engineers, including savings estimate.
- Lab painting demonstration of your products, using equipment closely simulating your own production conditions.
- Accurate measurements of paint film thickness.
- Engineering report of detailed tests to determine paint and labor savings.
- Coated samples of your job, lab production photos, and even movies if desired.
- Detailed drawings of equipment and workholder.

All of the above without obligation to you. And, before equipment is installed you receive detailed, pre-installation instructions. Too, a well-qualified, experienced engineer supervises installation and trains your operator on the job. Ransburg offers continuing laboratory and field service to help you with any of your finishing operations.

Ransburg

ELECTRO-COATING CORP.
Indianapolis 7, Indiana

● **First,** Ransburg sales engineers will make a survey in your plant to check the possibilities of using Electrostatic Spray Painting on your products. Next, you will send samples of your unpainted products—with paint—to the Ransburg laboratories in Indianapolis.

Here, the technical staff takes over. The Ransburg Engineering staff—which includes PH.D's and Masters in Physics, Science, Electrical, Mechanical and Chemical Engineering—makes a complete study of your job. Not only do they have the necessary academic training, but they have the "know how" gained from years of actual experience in the field. Ransburg, you know, was the pioneer in Electrostatic Spray Painting 15 years ago. Engineers and well-qualified technicians have at their disposal every facility for conducting complete tests, simulating your own production conditions. They'll decide which type conveyor is best suited for your job. (There's a conveyorized lab set-up—22 in all—to handle products ranging in size from automobile bodies and chassis to small components, such as window hardware.) They'll design workholders, if necessary, and determine exactly how your job can be run to your best advantage. Details, such as fixture spacing, will be worked out too.

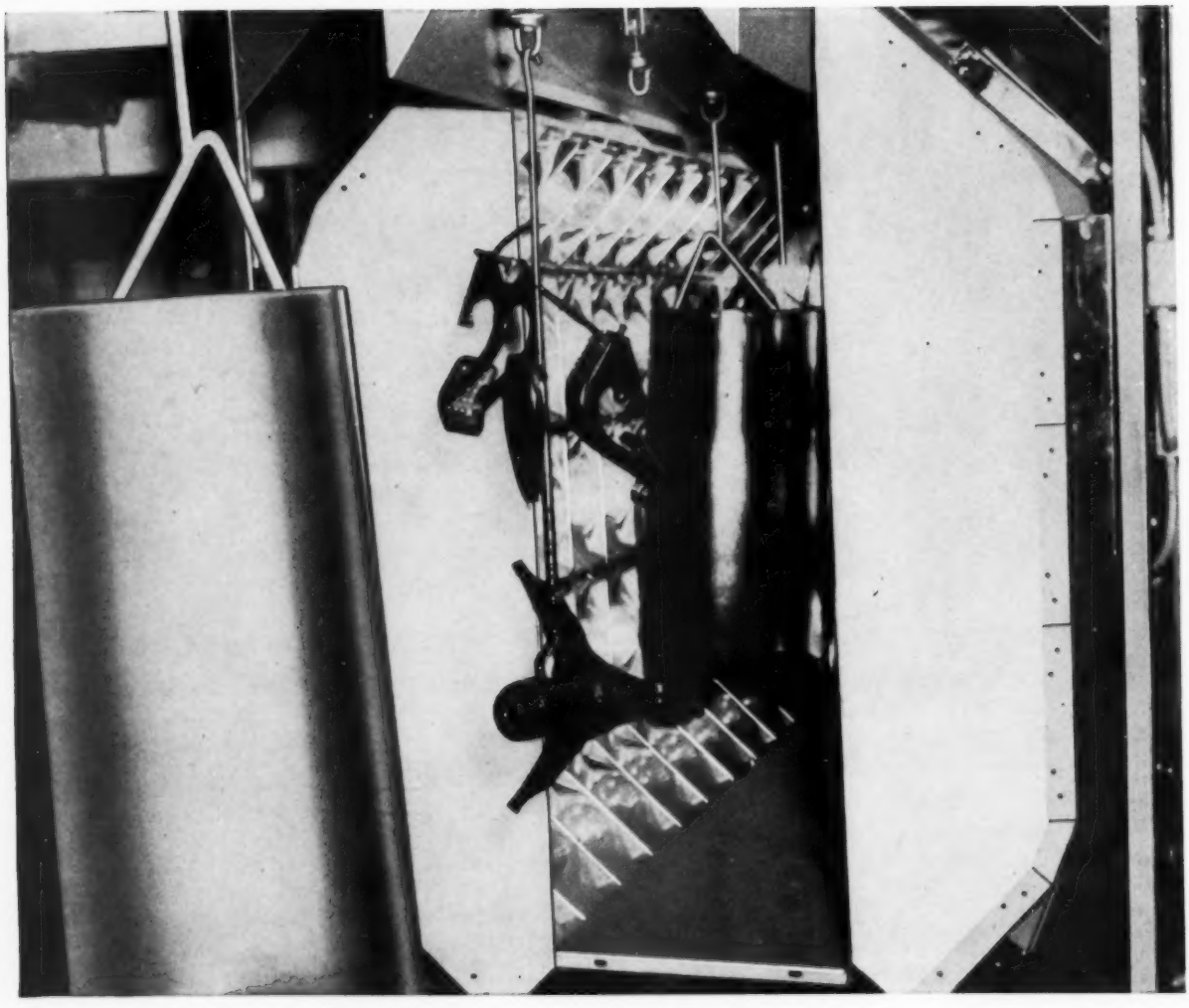
After preliminary studies and tests, you are invited to Indianapolis to see your job run in the lab. If you wish, photos and even movies of your test run can be made and furnished for your own production people to study. You see first-hand what Ransburg Electrostatic Spray Painting can do for you in your own plant.

YOU GET PAINT AND LABOR SAVINGS

Paint usage is accurately measured during the demonstration. The Ransburg No. 2 Process will provide savings up to five times the paint mileage of hand spray. And, one unit can do the work of many hand sprayers. You will see the improved, uniform quality of the work . . . you'll know what kind of increased production to expect, and you can recognize labor savings. ALL OF THIS WITHOUT OBLIGATION.

Ransburg service doesn't end there. After the equipment is installed in your plant—with our supervisory help—we will train your operator and continue to work with your finishing department. Our technically-trained field service engineers are always available to assist with any of your finishing problems.

Briefly, that's our story. Now it's your move. Call or write. Dept. F.



Eleven minutes is just long enough to save some money

International Harvester *knew* that radiant heat was fast, but they still got a happy surprise when they installed a Fostoria Oven: Before, they had dried cream separators in a convection oven. The thing took up *480 square feet* of floor space and needed a baking cycle of *one hour.* (We won't even mention the long warm-up time.)

That's when Fostoria came in with a specially designed radiant oven that cost less to buy, less to operate. It fits handsomely in IH's production line. It's only *eleven feet long,* and bakes a neat finish coat of enamel on the separators in just *eleven minutes.* You can just bet your old convection oven they're happy with it.

Your plant? The same thing would happen. Let us show you how.

Write for FREE booklet "APPLICATIONS UNLIMITED."

INFRA-RED fostoria SYSTEM

5506

THE FOSTORIA PRESSED STEEL CORPORATION, Dept. 1220, Fostoria, Ohio

"It Really Made Me THINK!"

"The other day when the Detrex man was in to see me, he dropped a couple pieces of information that really made me stop and think. The first thing he pointed out was that metalworking and surface preparation account for ¼ to ⅓ of all the operations in the average metalworking plant. That started the gears rolling. If this was true in our plant, here was a good spot to realize some important dollar savings.

"Well, after finding that 30% of our operations were in metal cleaning and surface preparation, I knew this was the spot to cut some costs . . . and no better way to start than by talking to a technician from Detrex. After all, they make a complete line of chemicals for metal cleaning and surface preparation —as well as the equipment too.

"To make a long story short, the Detrex technician surveyed our plant and came up with several cost-cutting suggestions that were pretty important to us. You know, I bet he could do the same thing for you in your plant. You don't even have to take the time to make the survey. I found out he will do it for you and it won't cost you a cent. Most likely you, too, will realize some important savings as a result of the survey. Talk to the Detrex technician about it the next time he calls, or write direct to their main office if you wish."

Service with a Saving!

DETREX CORP.

Dept. 607 • Box 501 • Detroit 32, Mich.

DEGREASERS • DEGREASING SOLVENTS • WASHERS
ALKALI & EMULSION CLEANERS • DRYCLEANING
EQUIPMENT • PHOSPHATE COATING PROCESSES

Phosphate Coating

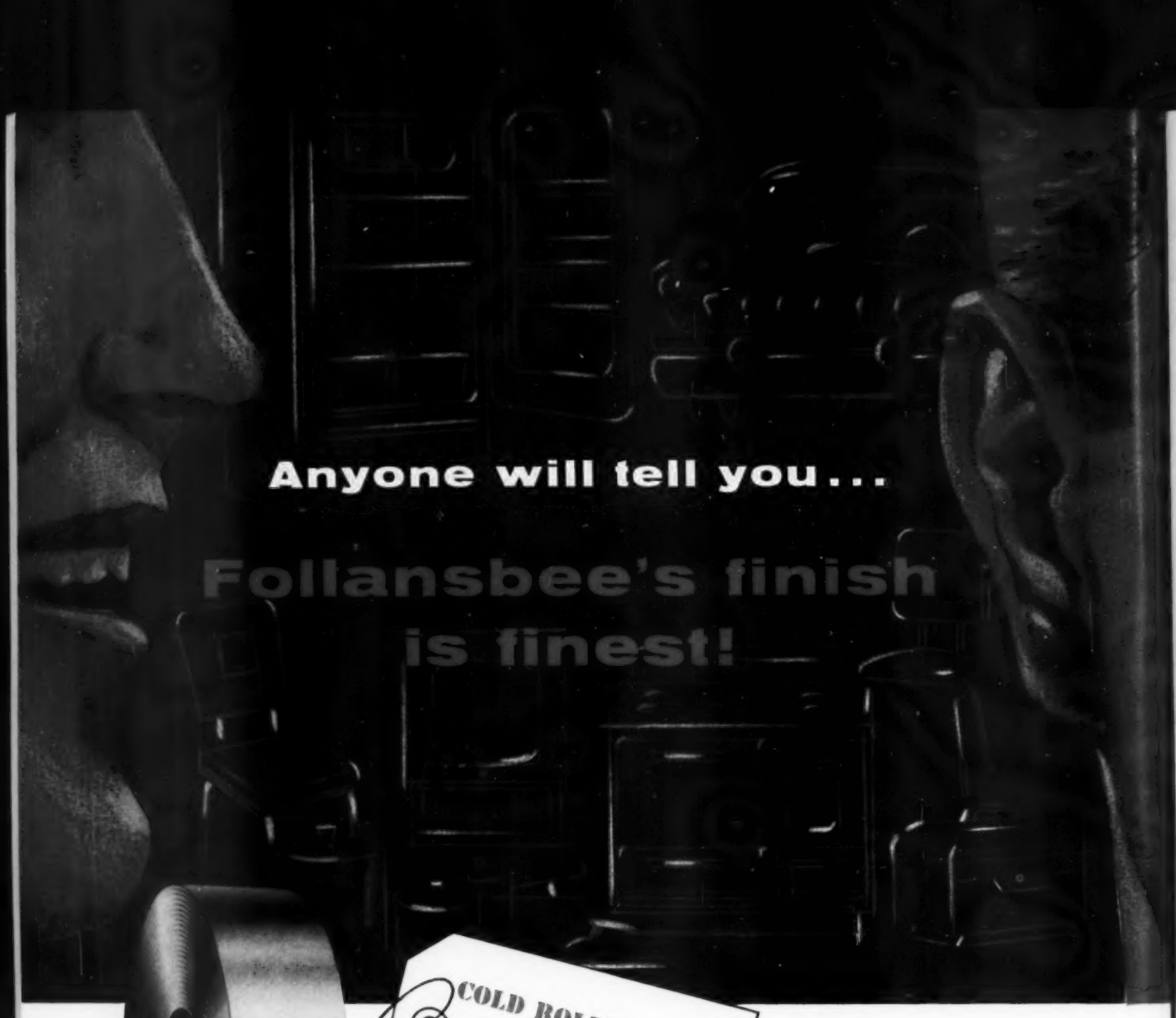
Detrex zinc phosphate coatings provide a permanent, rust-resisting surface and at the same time bonds the paint finish to the metal. Paint peeling and flaking are retarded, corrosion from moisture is prevented. Phosphate coatings can be economically applied by either immersion or spray methods.

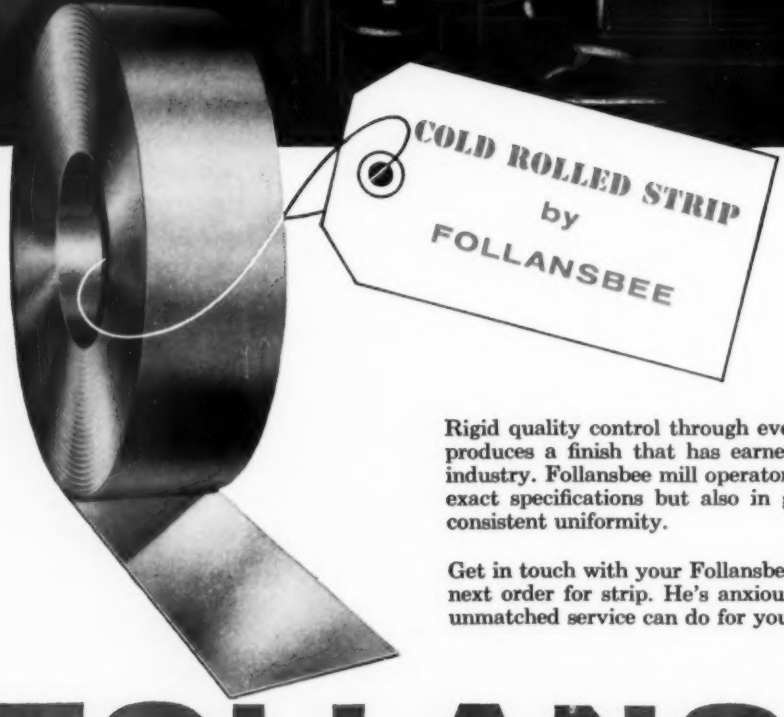
Emulsion Cleaners

Detrex emulsions clean metal and retard rust in one operation. Once metal parts have been cleaned with Detrex Emulsion Cleaners rust will not attack them. Because they will not attack any known metal or alloy, Detrex Emulsion Cleaners offer greater flexibility. Temperatures, concentrates and chemicals can be tailored to your specific cleaning needs.

Degreasing Solvent

Detrex Perm-A-Clor has superior stability and resists break-down into sludge or corrosive acid. Thus, Perm-A-Clor assures trouble-free, continuous production. Eliminates costly shutdowns for replacement of spoiled solvent, clean-out of sludge and neutralizing of cleaning equipment.





Rigid quality control through every phase of production at Follansbee produces a finish that has earned the reputation of the finest in the industry. Follansbee mill operators take pride not only in meeting your exact specifications but also in giving you cold rolled strip that has consistent uniformity.

Get in touch with your Follansbee representative before you place your next order for strip. He's anxious to show you what true quality and unmatched service can do for you and your product.

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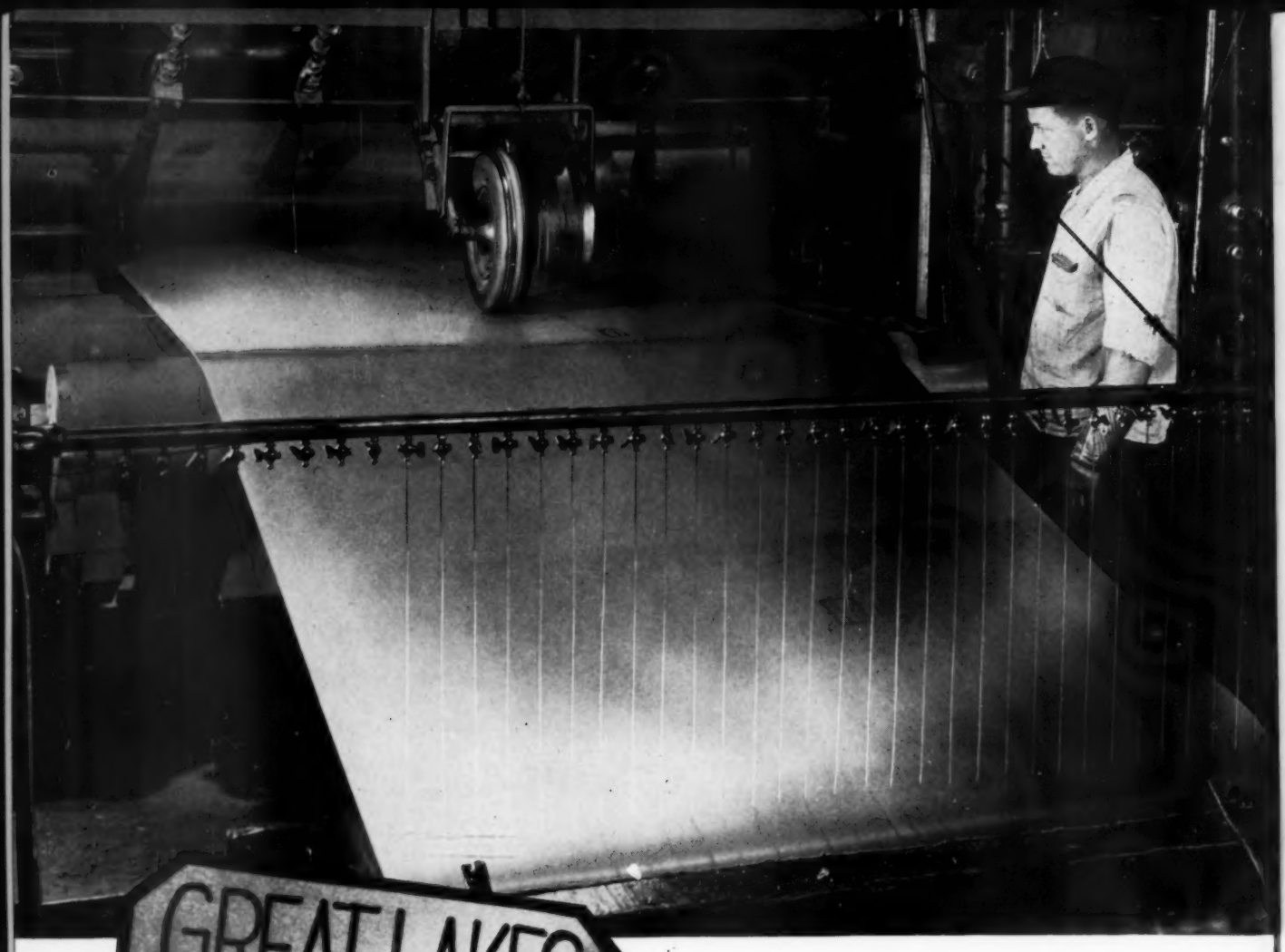
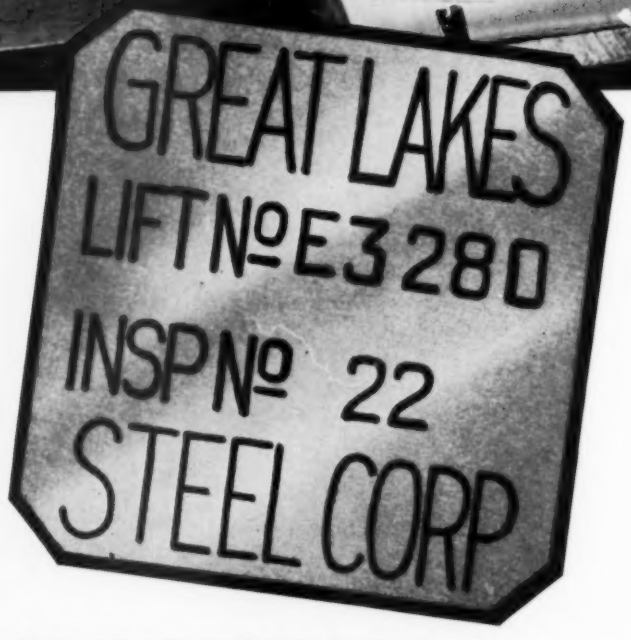
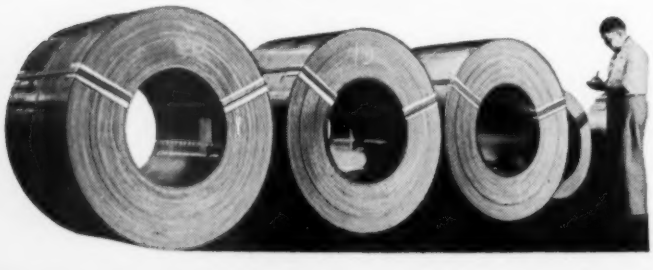
THE finish spotlight

Frigidaire's 12.1 cubic foot Imperial refrigerator for 1956 features a changeable snap-on panel on a separate freezer door which is available in seven colors — chrome, yellow, green, blue, pink, maroon and copper. This allows redecorating of the refrigerator when there is a change in the color scheme of the kitchen. These panels match similar panels on the new electric ranges. The refrigerator cabinet comes in such colors as Stratford yellow, Sherwood green, Mayfair pink, Sheffield gray and white.





Devices such as the one shown in operation above stamp our steel with our name. Each lift and coil Great Lakes Steel produces carries such a stamp or tag bearing an identification number from which the complete history of the material concerned can be obtained.



How Great Lakes Steel *identifies* quality

Because this identification helps us give better service to our customers, it is an important aid toward an all-important goal. The goal can be summed up: *Give each customer the quality of steel to meet his requirements—when and as wanted.*

Men throughout the mill insist on *quality with service* for our customers.

We invite you to talk over your production problems with a Great Lakes representative. His assignment is to bring into your plant the steelmaking knowledge and experience of the Great Lakes organization.

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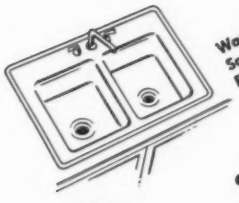

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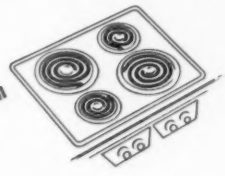
Sanitary
Easy to Install



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Each corner radius is exact, assuring a tailor-made fit.

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EXACT UNIFORMITY
VanSeal Frames of the same size are consistently alike in their measurements.

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Welded so perfectly—finished so smoothly—you can't locate the weld on the top surface.

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The Westinghouse refrigerator

has come a long way

since 1932

... and so has Du Pont DULUX® enamel!

America's leading home appliance finish

. . . has helped sell over 36,000,000 refrigerators!

THE EFFICIENCY and smart good looks of the 1932 Westinghouse refrigerator made it one of the most welcomed home appliances of its time. But over the years, constant improvement by Westinghouse technicians has resulted in a refrigerator that gives the modern housewife far more convenience and leisure than the shopper of twenty-two years ago could ever hope for! The popularity of the 1955 Westinghouse is proof that continued product improvement is vital in maintaining the acceptance of the buying public.

And so it is with America's leading home appliance finish—Du Pont "DULUX" enamel! Constant research over the years by Du Pont chemists has resulted in more rugged resistance to chipping, cracking, scratching or staining . . . easier cleanability . . . longer-lasting whiteness than ever before. That's why the "DULUX" of today meets the most exacting requirements of *today's* topflight appliance manufacturers.

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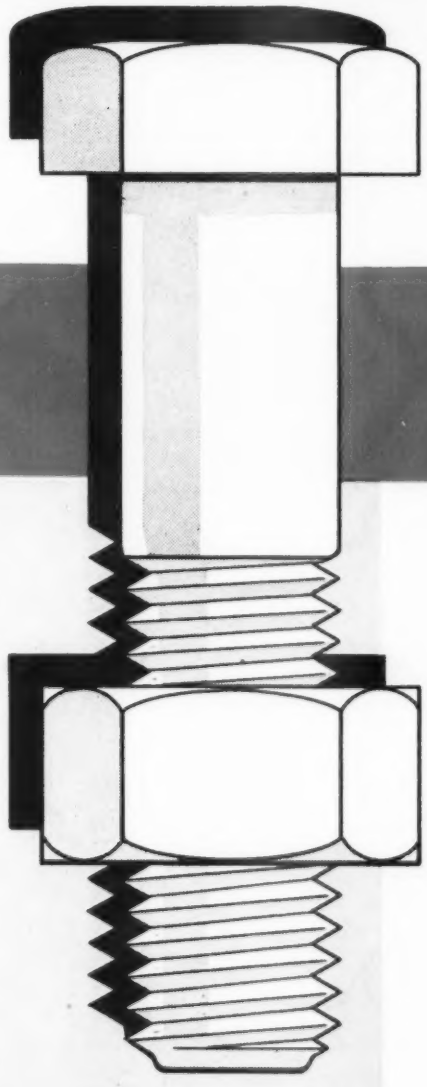

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Indicator Body — Wash-'N-Dry Laundromat

Here's how **Westinghouse** TURNED **GI PLASTICS** INTO PROFITS!

Lint Catcher — Laundromat Dryer

Pump Body — Wash-'N-Dry Laundromat

Motor Pulley Slide — Laundromat

Condenser Housing — Wash-'N-Dry Laundromat

Westinghouse Wash-'N-Dry Laundromat

THE PROBLEM: To create high quality, light weight, non-corrosive, economical parts for the new Wash-'N-Dry Laundromat.

THE SOLUTION: Through the combined efforts of *General Industries'* Design and Engineering Departments and the Engineering and Purchasing Departments of Westinghouse, component parts molded of special plastic material were developed . . . which provided better performance at lower costs than the metal parts they replaced.

Westinghouse brought this problem to *General Industries* because Westinghouse had learned by experience that — ***it pays to rely on GI.*** Westinghouse and *General Industries* joined design and production talents to produce for the Laundromat, plastic parts which would not be affected by the corrosive action of certain detergents. *General Industries* engineering and design know-how backed by modern production facilities solved the problem, resulting in higher quality, lighter weight non-corrosive components and substantial savings, reflected not only in the cost differential between the new and the old part but also in freight charges of the finished product.

When the new Westinghouse Wash-'N-Dry Laundromat was on the drawing boards, *GI* again helped to provide some of the answers to problems that always occur in the development of a new product.

When you have a design and cost problem, you too, can turn "Plastics into Profits". *General Industries'* free design and engineering consultation facilities are at your service. Phone or write today.

THE GENERAL INDUSTRIES CO.

PLASTICS DIVISION – DEPARTMENT P • ELYRIA, OHIO

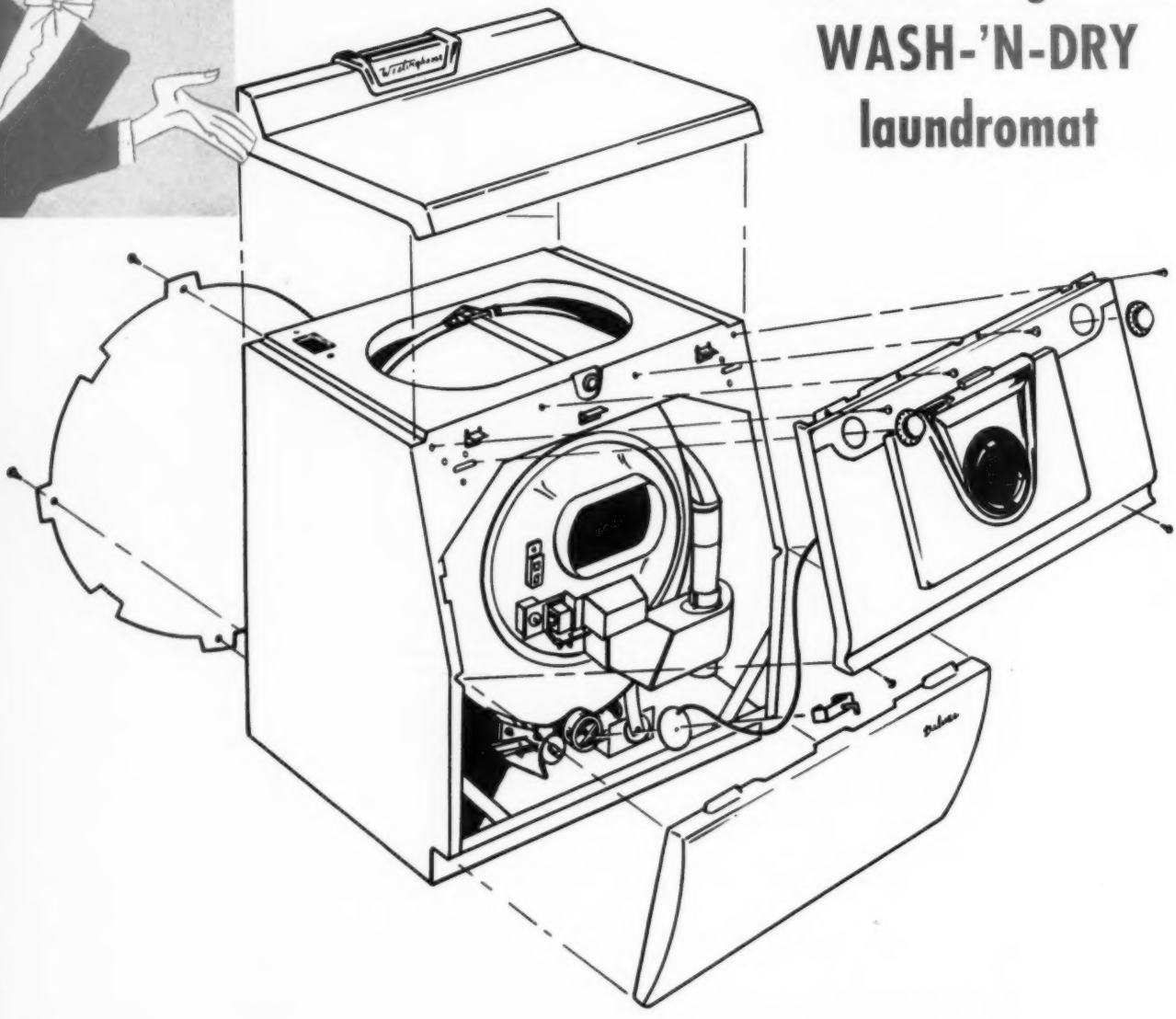
THE WESTINGHOUSE WASH-'N-DRY LAUNDROMAT . . . is a combination automatic washer and clothes dryer in a single standard-sized unit. For washing operations the laundromat is equipped with the same tumble action used on the company's other models. A single dial provides flexible control of the washing operations — it can be used to start, stop, repeat or eliminate any part of the washing cycle and also in the selection of hot or warm water.

For drying, the appliance features a three-way dry dial that gives the user a choice of three degrees of drying: (1) complete drying for immediate use or storage, (2) uniform damp drying for ironing, and (3) a safe drying for new man-made fabrics requiring low temperature and minimum drying time. A special condenser carries away the lint and moisture eliminating the need for venting.

Other features include the Laundrofile — the built-in instruction booklet, exterior slanting design, and the convenience of mounting appliance flush against the wall. Model WD-1 is available in cascade aqua, sunshine yellow and combinations of these as well as white. It carries a suggested retail price of $529.95.

See next four pages for engineering details ⟶

The Westinghouse WASH-'N-DRY laundromat

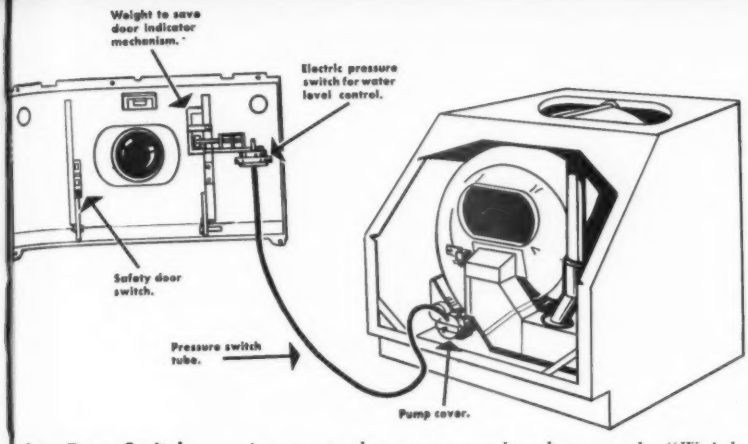


Engineering details of a combination washer-dryer unit

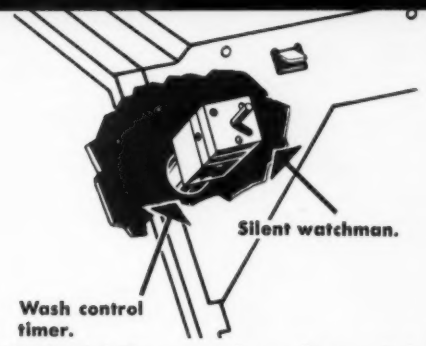
THE development of a combination unit for washing and drying clothing in the home calls for infinite care in design and engineering in order that the resulting unit will be reasonably trouble free, easy to service and that it can be confined to a cabinet of reasonable size.

On the following pages *finish* presents an artist's conception of the principal components of the Westinghouse Wash-'N-Dry Laundromat. The exploded view on this page shows how the top panel is easily removed, as are the service panel and the face panel. The following sketches illustrate one or more individual components with sufficient descriptive copy to indicate the concept of their practical application.

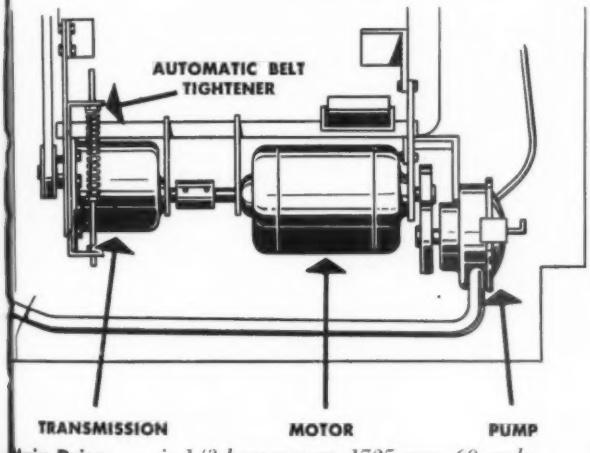
three pages of illustrations →


Weight to save door indicator mechanism.
Electric pressure switch for water level control.
Safety door switch.
Pressure switch tube.
Pump cover.

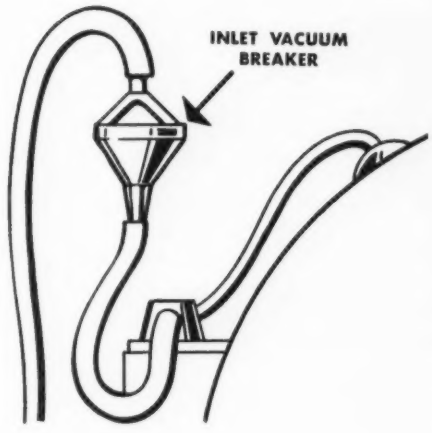
Safety Door Switch . . . *interrupts the power supply whenever the "Weigh-To-Save" door is opened. The door load indicator has a weighing mechanism which operates as follows: A stud on the door hinge arm presses against a long flat spring causing the spring leaf to flex and move the scale indicator needle.* **Pressure Switch for Water Level Control** . . . *the pump cover acts as an air bell which fills about two-thirds full of water, pocketing air in the upper third. The pressure created carries through the plastic tube to the pressure switch.*



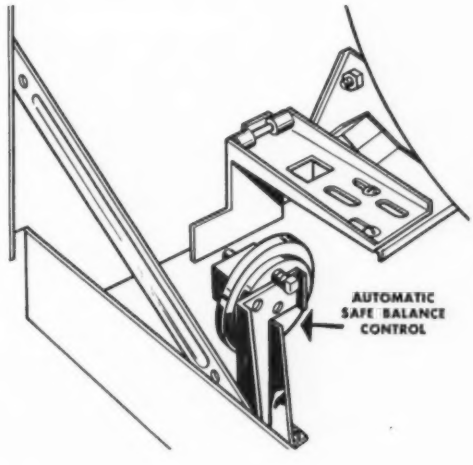
Wash Dial Timer . . . *the washing cycle is controlled through a series of switches that are opened and closed in sequence by a tiny motor. The cycle can be interrupted by pushing on this timer dial. Mounted to the timer and wired to the motor circuit is a safety device for protecting the main drive motor against overloads.*



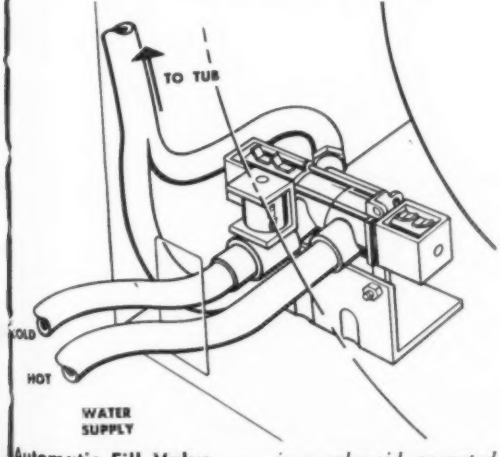
Main Drive . . . *is 1/3 horsepower, 1725 rpm, 60 cycle, capacitor start motor with dual shafts for driving pump and for transmission drive through a flexible coupling. Thermostat protects against burnout.* **Automatic Belt Adjustor** . . . *compensates for wear or stretch of the belt.* **Transmission** . . . *drives the wash basket by means of a belt at 50 rpm wash speed and 200 rpm spin speed. The pump empties the tub at the end of the wash and rinse periods and operates during the drying cycle to pump lint and moisture down the drain.*



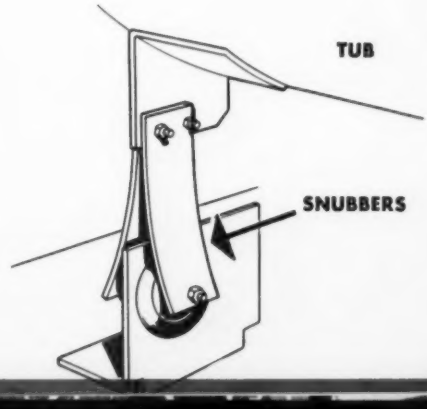
Water Inlet Vacuum Breaker . . . *provides an air gap in the fill hose between the fill valve and the condenser where the water enters the tub. It is located in the upper right rear corner of the Laundromat.*



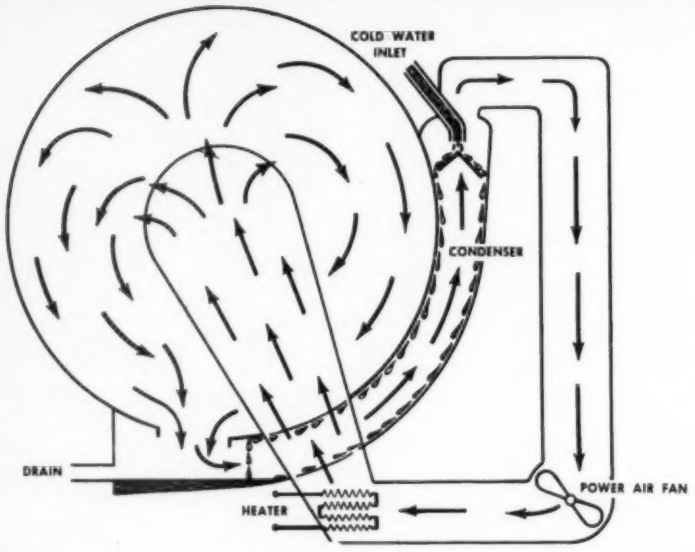
Automatic Safe Balance Control . . . *returns the unit from spin to tumble speed should the load become unbalanced. After the clothes redistribute in the tumble speed, it automatically returns to spin.*



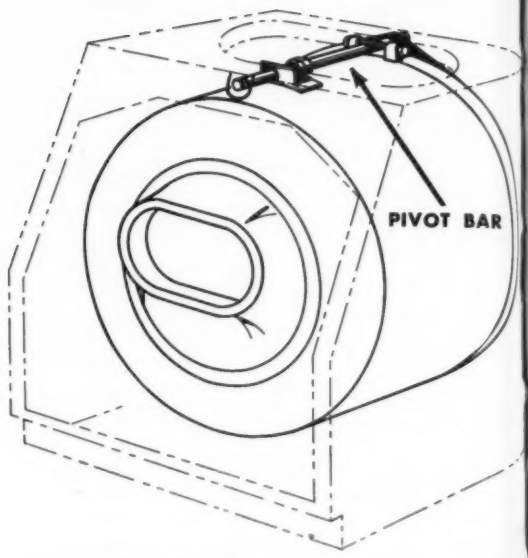
Automatic Fill Valve . . . *is a solenoid operated valve which admits hot water for the wash period, thermostatically mixes hot and cold for wash, mixes hot and cold to 100° for rinse periods and, with a third solenoid, supplies cold water to the condensor during the drying period.*



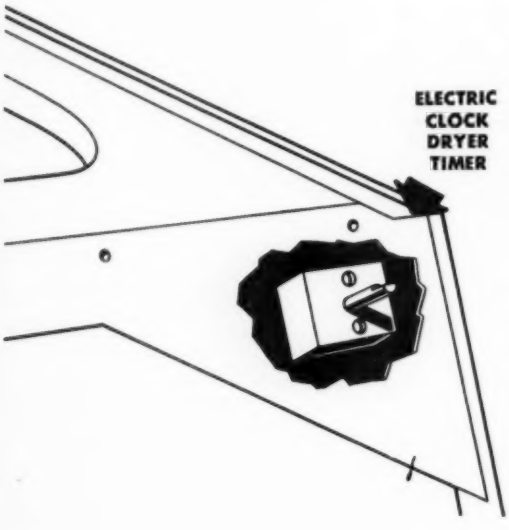
Double Snubber Brake Assembly . . . *acts as a brake to control the movement of the washing unit independent of the cabinet during the spin periods. One snubber opposes the other, eliminating vibrations.*



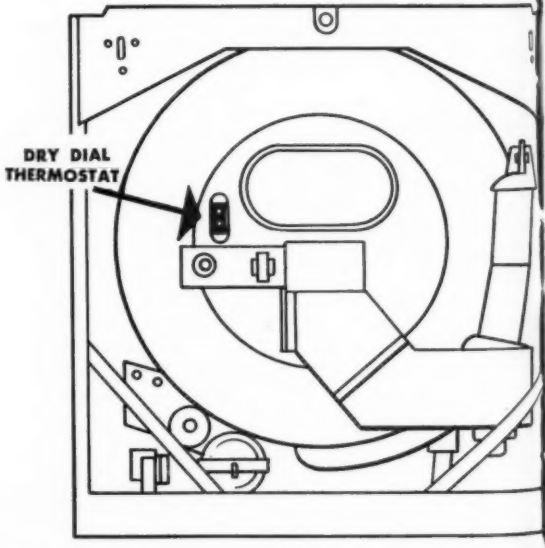
Condenser . . . *a water fall condenser removes the moisture, lint and heat from the air. As it circulates within the unit and pumps to the drain, cold water enters the condenser at the top and runs down each side for cooling. As moisture laden air is drawn past the water cooled surfaces, it releases moisture by condensation, and it is delivered to the drain. After the moisture laden air is dried, it is again drawn into the multi-vane fan to be blown past the heating element for another cycle.*



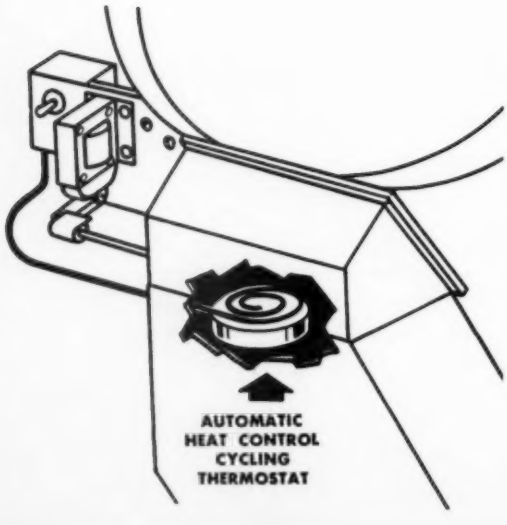
Pendulum Suspension System . . . *the entire inner is suspended in the cabinet on a pivot bar. This allo to move to the right or left with a pendulum action eliminates the necessity of bolting the combination wa dryer down for home installation.*



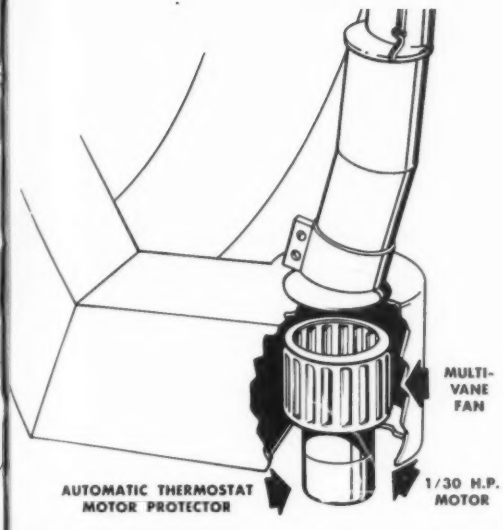
Electric Clock Dryer Timer . . . *this timer controls dryer when time settings are used to damp-dry clothes for ironing—when short time settings are used to dry or damp-dry delicate fabrics. The timer shuts off the heating element and provides an 8 minute no-heat period during which cool air is blown into the clothing. The timer shuts off the dryer at the end of the cycle.*



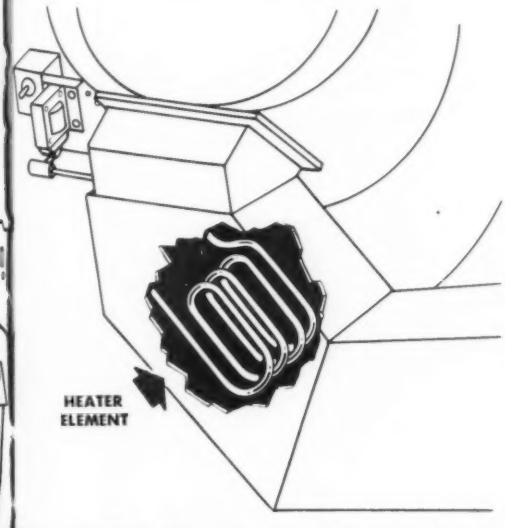
Dry-Dial Thermostat . . . *this thermostat measures the ness of the clothes by the amount of moisture circulating the dryer, providing for automatic turn-off when clothes dry. It also starts the electric clock dryer timer after heater shuts off to provide an 8 minute no-heat per*



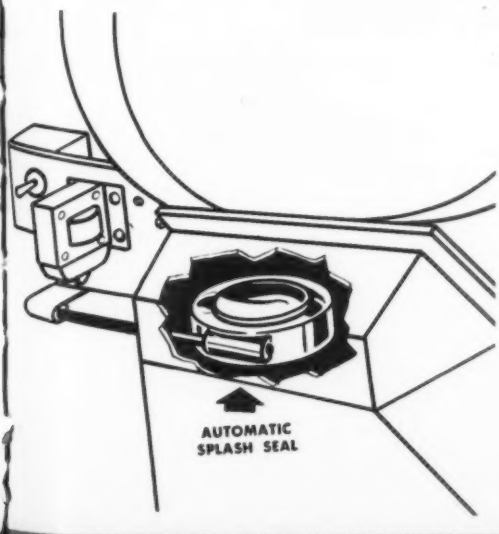
Heat Control Cycling Thermostat . . . *an hydraulic control tube is located in the air duct at a point where the warm air enters the tumbling clothes. This thermostat cycles the heat off and on to maintain safe temperatures regardless of voltage changes. It is designed to protect delicate fabrics for the entire drying period.*

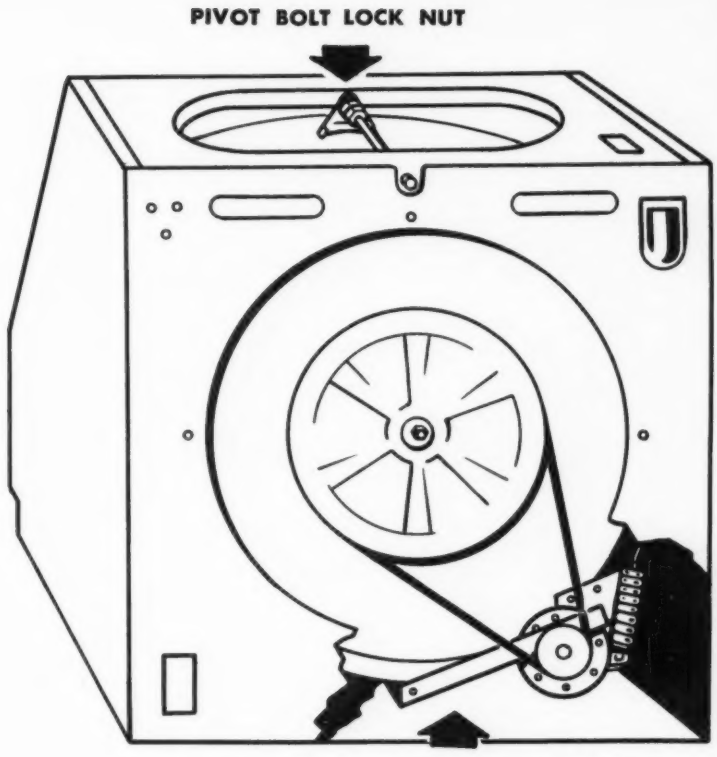


Multi-Vane Power Fan . . . *is used to circulate air during the drying cycle. It is driven by a 1/30 hp, 3000 rpm, 150 volt direct coupled motor. A built-in thermostat protects from burn-out.*

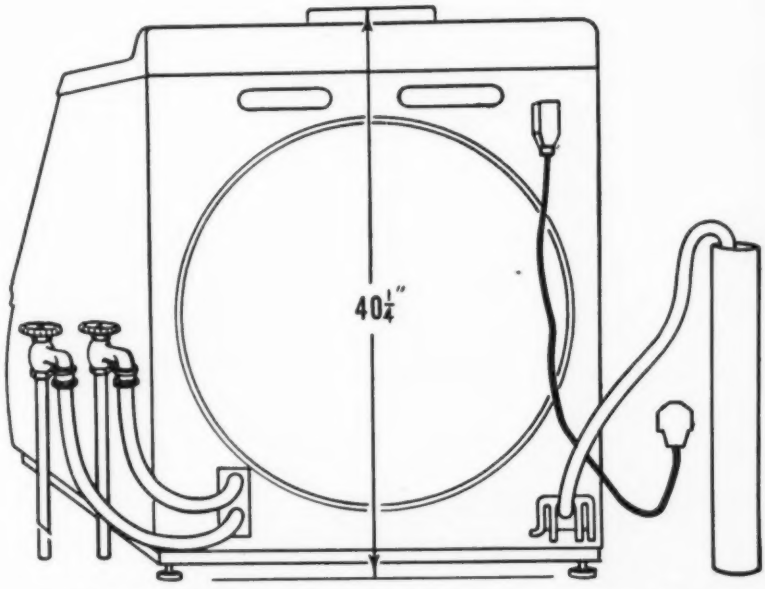


Dryer Heating Element . . . *nichrome heating element wire is centered in and surrounded by magnesium oxide and sealed-in-steel. The element is rated at 4600 watts at 236 volts.*



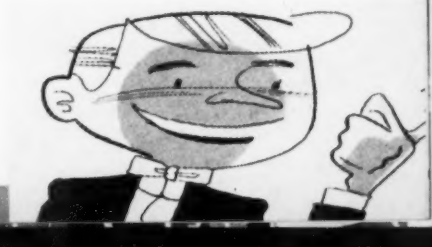


Shipping Braces . . . *are made an integral part of the assembly. For installation, a pivot bolt lock nut is backed away from the bracket. Shipping braces are pulled up about 3 inches and attached together with an angle plate.*



Simplified Installation Requirements . . . *are indicated by this sketch. The unit may be flush installed and requires the following: 115/230 volt, 30 amp, 3-wire service, hot and cold water supply and 1-1/4" minimum drain stand pipe 25 inches high. No venting is required.*

Automatic Splash Seal . . . *prevents the water from entering the dryer heater and fan assembly during the wash cycle. At the start of the "dry" cycle, it is automatically opened by a solenoid so the warm air is discharged into the tumbling clothes.*



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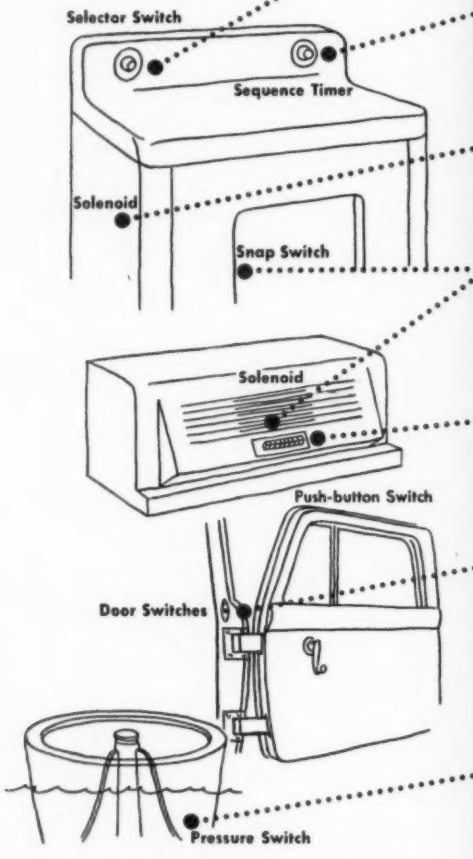
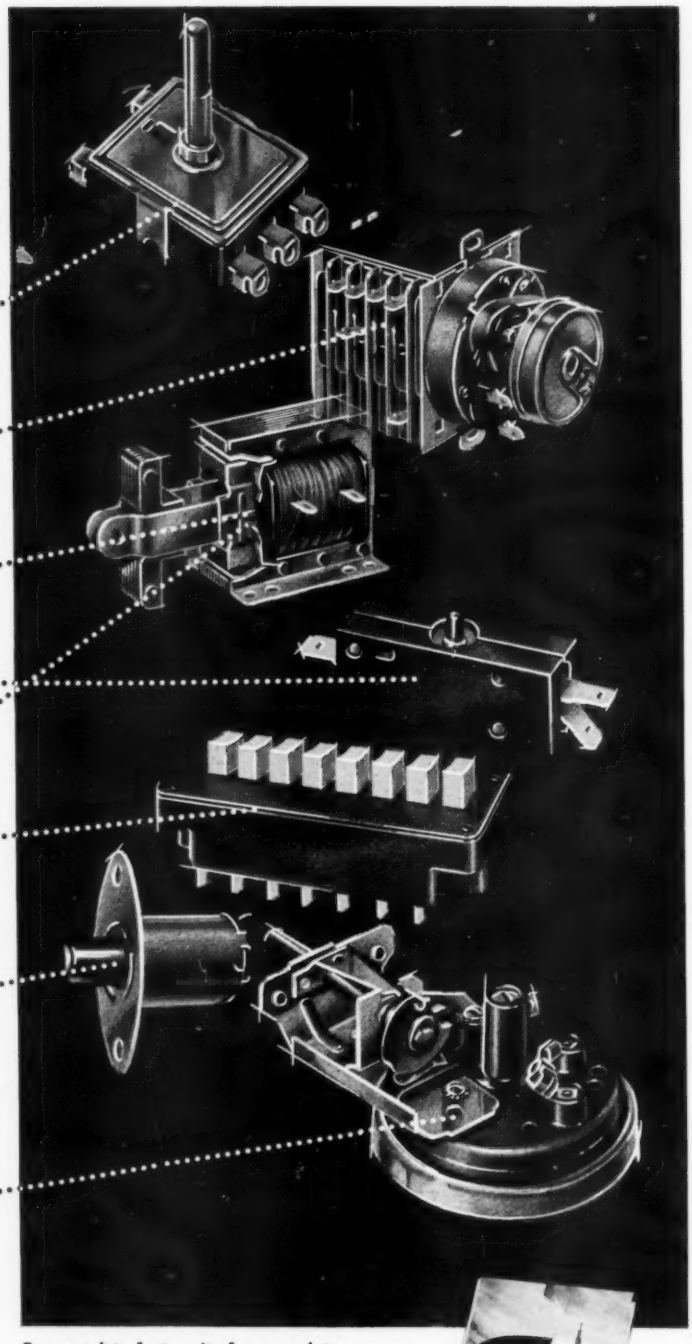
Some of the Applications
of Soreng-Designed Controls





Soreng controls can be custom designed— to meet your specific requirements—at mass production prices.

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SORENG

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9559 Soreng Avenue, Schiller Park, Illinois • ***Plants: Schiller Park, Ill.*** • ***Fremont, Ohio*** • ***Spring Valley, Ill.***

OTHER SORENG PRODUCTS FOR THE APPLIANCE, AUTOMOTIVE AND AIRCRAFT INDUSTRIES

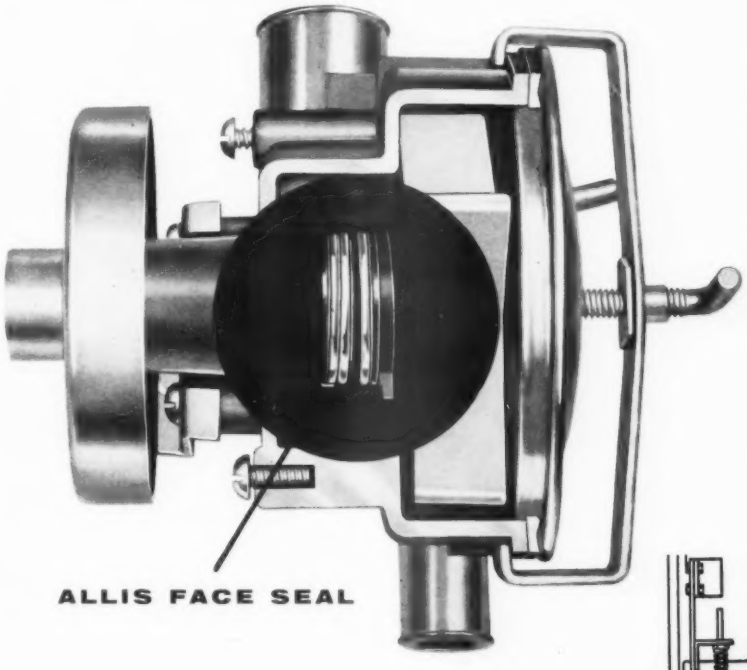
Solenoid | Selector Switch | Timer | Snap Switch | Push-button Switch | Door Switch | Solenoid Valve

PROTECTIVE SEALING

for the new

WESTINGHOUSE

WASH-N-DRY LAUNDROMAT PUMP



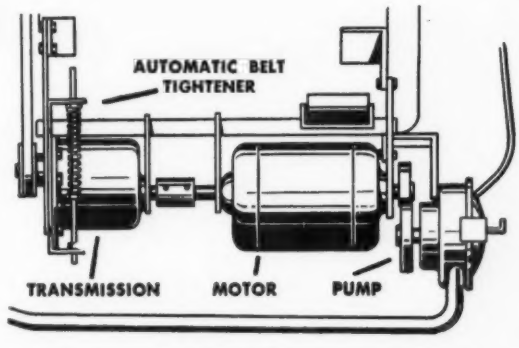
ALLIS FACE SEAL

Westinghouse engineers specified a failure-proof seal to prevent water leakage and protect the bearings of the pumping unit of their new combination washer-dryer machine.

To provide a seal equal to the requirement, the Allis Seal Division of Chicago-Allis Mfg. Corp., working in close collaboration with Westinghouse, developed a face seal which will withstand 4000 hours of continuous operation.

This seal, functioning under pressure, successfully excludes from the vital pump bearings, hot and cold wash or rinse water and all detergent or soap solutions.

The Allis Seal Division, thru its engineering and manufacturing skills, is constantly meeting and solving problems which require both face and shaft type seals. No matter what your seal is expected to do, from the exclusion of all kinds of solid or liquid matter, to the retention of lubricants or pressure, Allis Seal has the facilities and designing talent to make it.



Drive, transmission, and pump assembly. The pump empties tub at the end of wash and rinse periods and operates during drying cycle to pump lint and moisture down the drain.

Chicago-Allis Mfg. Corp. in its three divisions designs and fabricates face and shaft seals, custom molded rubber parts, textile leathers, mechanical leathers, packings, and leather power transmission belting.

SINCE 1889

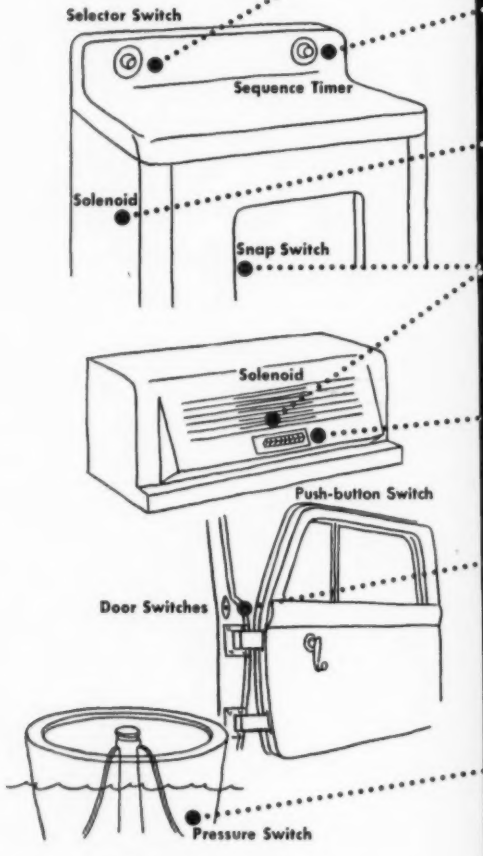
CHICAGO-ALLIS MFG. CORP.

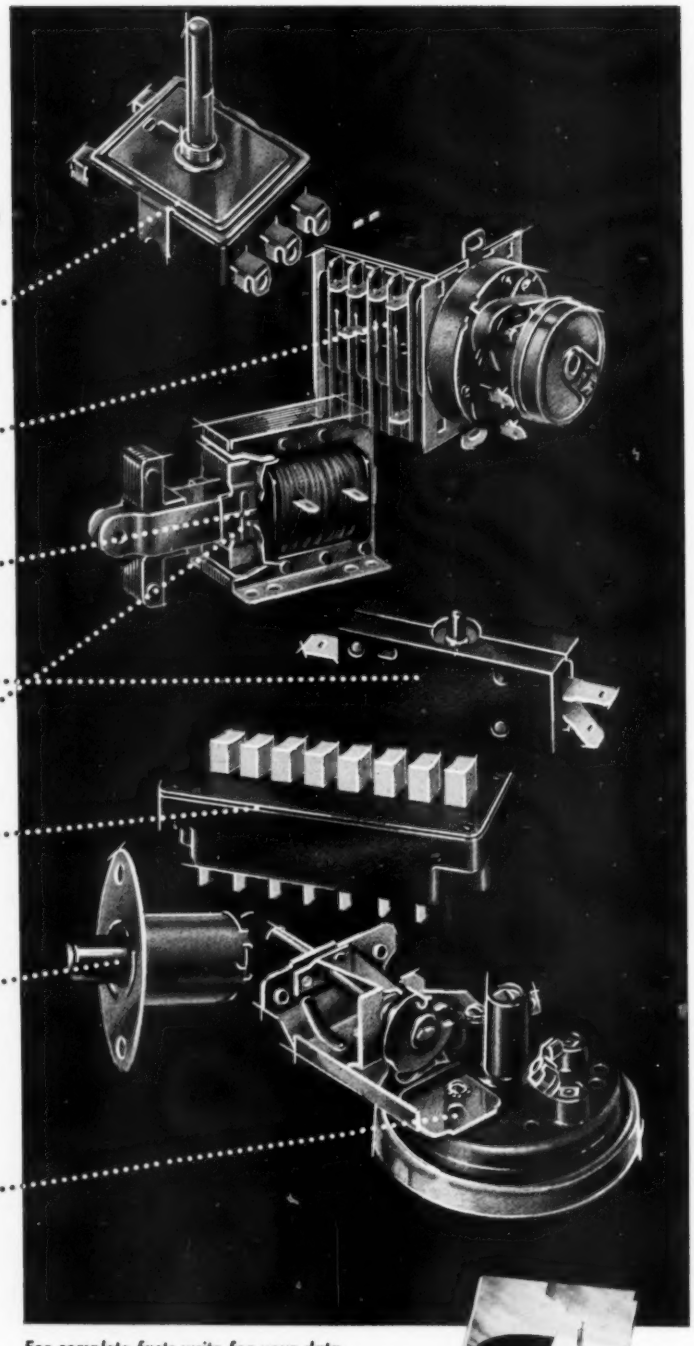
Producers of CHICAGO BELTING · ALLIS RUBBER · ALLIS SEAL Products

for CONTROL...

of Electro-Mechanical Force
Consult with Soreng First

Some of the Applications
of Soreng-Designed Controls





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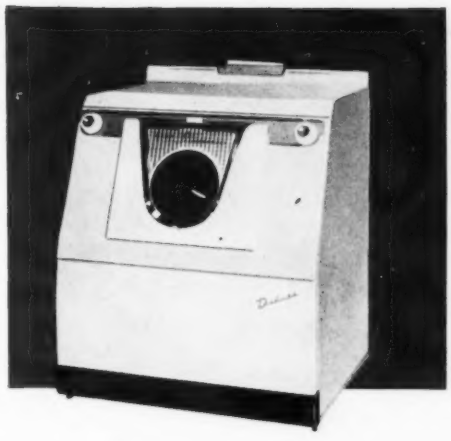
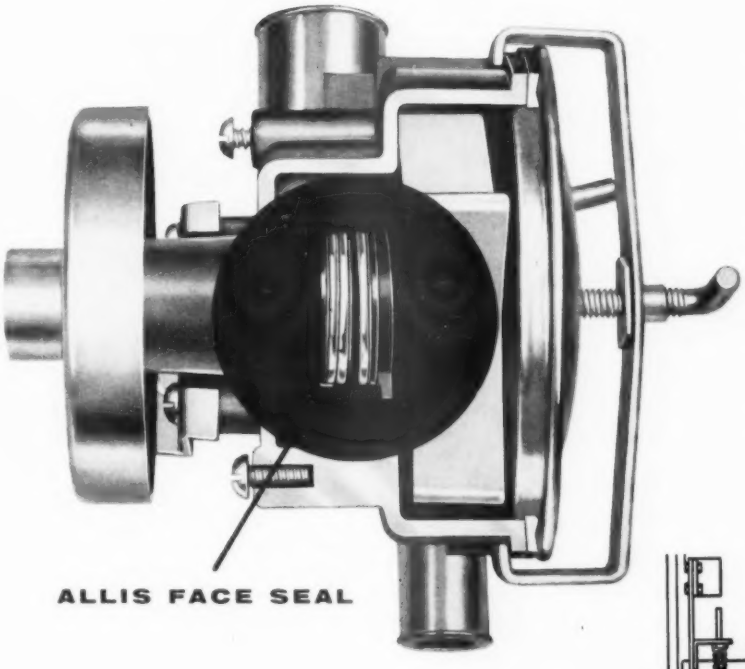
PROTECTIVE SEALING

for the new WESTINGHOUSE WASH-N-DRY LAUNDROMAT PUMP





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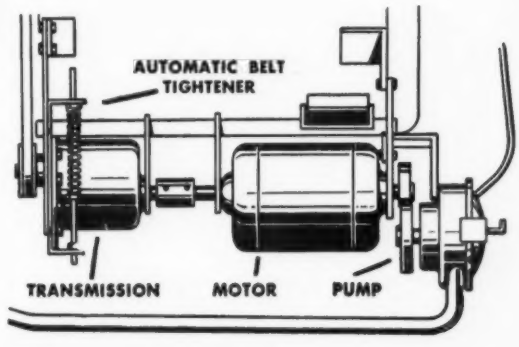

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WESTINGHOUSE has selected FIRESTONE rubber and rubber-to-metal parts for its unique, new, combination washer-dryer unit, the Westinghouse Wash-'n-Dry Laundromat. Firestone parts were specified because of their successful and economical performance, during the past nine years, in previous models of Westinghouse home appliances.

• • • • • • • • • • • • •

Here is another example of Firestone rubber know-how by experienced top-flight engineers, who are thoroughly familiar with the problems of the appliance industry.

This know-how is exemplified in Firestone Techni-Service, which has long been an important factor in helping solve design and specification problems. Now, it has been expanded to include a new and unique service, a team production analysis procedure that can materially lower production costs.

In these competitive days, when every cent of production cost is important to every appliance manufacturer's sales organization, it will pay you to get in touch with Firestone at once and ask how Firestone Techni-Service can help with some of your design and production problems.

• • • • • • • • • • • • •

Write: Firestone Techni-Service

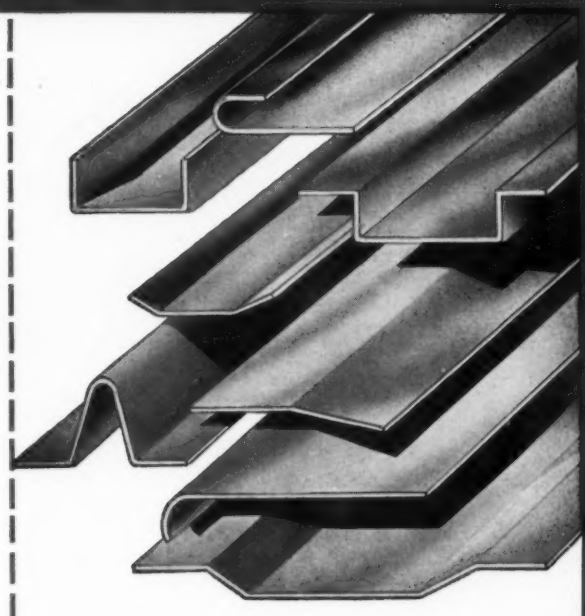
Firestone INDUSTRIAL PRODUCTS CO.

AKRON 17, OHIO

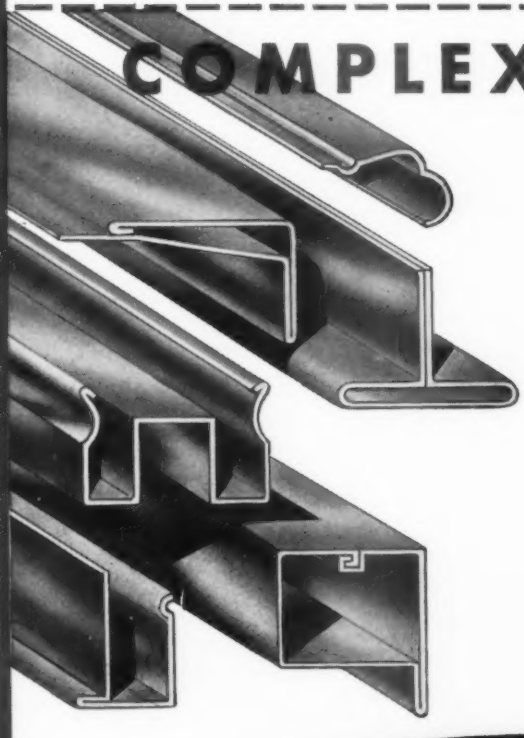
SHAPES

SIMPLE

OR



COMPLEX by ROLL FORMED



Perhaps your metal shape specifications are simple, but economical volume is your problem. Roll Formed engineers will recommend a gauge and size that will do the job well and allow you increased profit. If you need complex shapes, our facilities for designing any form are at your disposal. Let Roll Formed study your fabricating requirements and show you how to reduce your assembly costs by using our shapes. We can furnish any shape from carbon, stainless or galvanized steel, aluminum, copper, zinc or clad metal. It will pay you to investigate.

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THE finish LINE

The ACTION Committee is working for rehabilitation and slum clearance in three ways:

1. Research — to find out more about housing conditions and what has been done and can be done to improve them.
2. Information — the publicizing of this information in a broad campaign to Americans everywhere.
3. Service — to provide expert technical assistance to individuals and committees for effective local programs.

For additional information, address ACTION, Box 462, Radio City Station, New York 20, N. Y.

A-C-T-I-O-N . . . in this editorial stands for the American Council To Improve Our Neighborhoods. Organized in 1954 as a non-commercial, non-political, non-profit organization, the ACTION program is a two-pronged effort. First and most basic is the elimination, or replacement, of all those dwellings in the cities and towns of our country which are unfit for human habitation so that everyone may have adequate housing. Second, realizing that even with this major step forward, the job would only be half done, ACTION has launched a program designed to prevent the formation of additional slums. This is to be accomplished through conserving, renewing or rehabilitating the millions of homes which are gradually decaying and which will be the slums of tomorrow unless preventive measures are taken now.

The spread of slums, like disease, is infectious. It may start with the overcrowding and neglect of one house in a block, spread to other houses until the whole block and then the whole neighborhood is engulfed. Living conditions deteriorate rapidly, pride in home and neighborhood declines, values are depressed and gradually a good neighborhood takes on the characteristics that make it a slum. This cycle is not only costly in dollars—both tax and property dollars—but it is expensive in terms of people as well. Slums are the breeding place for crime, disease, juvenile delinquency and personal disintegration. The process of blight may choke a good community to death. Blighted areas are often located in the heart of our cities where commerce and industry have the most at stake.

The objectives of ACTION have been expressed as "better living for all Americans." The focus of its program is, however, centered on the American home and its relation to the neighborhood and the community in which it is located. As we have all learned, no home is an island, and the factors which affect better living conditions for 165 million Americans cannot be considered only within the four walls which go to make up the dwellings in our country.

The way we live, the condition and value of our homes, is directly affected by a long series of forces which operate outside of the home itself — the flow of traffic; the location of commercial and industrial firms; parks and educational facilities; the availability of community services, public utilities, transportation; and many, many other things. So in launching a program designed to improve the living standards for all Americans, ACTION must include not just the bricks, mortar, and lumber — the physical structure — of the house itself, but also its setting in the neighborhood and the community.

Numerous successful efforts, of limited scope, have been made to solve this major national problem of community deterioration, but no half-measures can ever be successful. The solution lies in concerted activity by all elements within the community with the full support of every citizen. And every citizen has a tremendous stake in the success of this activity. People forced to live below the margin of human decency vastly complicate the problems of community service: our teachers, our churches, our welfare agencies, our police and fire services and every other related agency or group concerned. The taxpayer suffers in the better neighborhoods because his tax load must be increased to carry the burden of those areas which cannot possibly pay their own way. Most important of all is the personal loss, the great human waste which society suffers because of the misery and despair with which these people live daily.

So wherever you live, whatever you do, this is your problem. These conditions bring in their wake sizable dollar costs to you, whether you own your own home or are a renter. Since blight is spreading and engulfing more and more homes and neighborhoods each year, it is moving closer and closer to your home and to your neighborhood, posing an enlarging threat to the way you now live, your personal and economic security and the health and well-being of your community. It is your responsibility as well as your opportunity as a citizen to help stop its further spread.

Most Americans are not aware of the situation as it exists today. While it is true that more than ten million new homes have been built since the War, these must be balanced against the estimated five million dwelling units in the slums and the more than twenty million homes in need of repair and improvement. The million or more new homes being built each year will not keep pace with the loss through deterioration and the need to accommodate population increases.

America does indeed have homework to do. Various kinds of slum clearance, rehabilitation and conservation have been successfully demonstrated. There have been some solutions using public housing, private housing or the two in combination. Means are at hand, but they require all-out support. The development of citizen support is the role in which ACTION is most effective.

The foregoing description represents information supplied by the comparatively new non-commercial, non-political, non-profit organization to which this editorial page is contributed.

The readers of *finish* throughout the metal products manufacturing field certainly have a more than average stake in a program of this kind. For instance, in the home appliance field, the tremendous growth of the industry is admittedly wrapped up in the continued growth of home building.

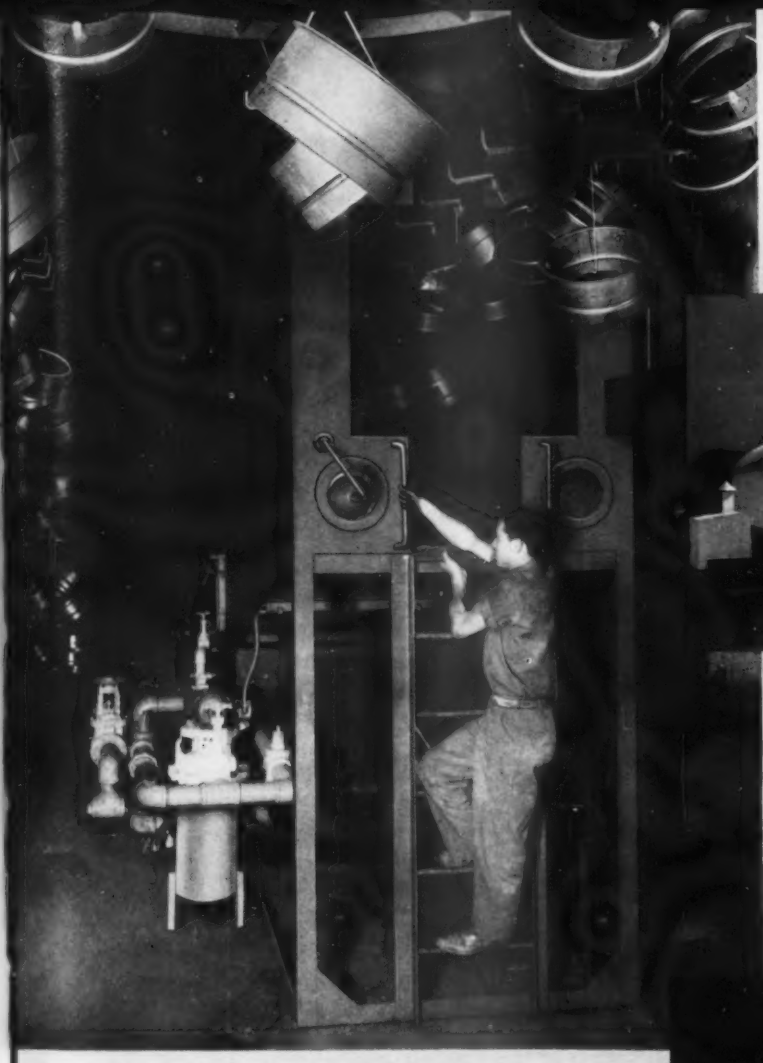
Certainly in a program such as the one described there is ample reason for individual and company effort without any selfish motive. For the cynics who believe that some sort of personal incentive is required for the success of nation-wide movements, there is ample reason in our industry for support along these lines also.

It is our feeling that every reader of *finish* can help whether he be a top executive in the company, capable of organization-wide support, a workman in the plant who may want to give personal support or work through a social organization, or those who are politically inclined and may exert political influence, each can play a very important part in this ACTION campaign.

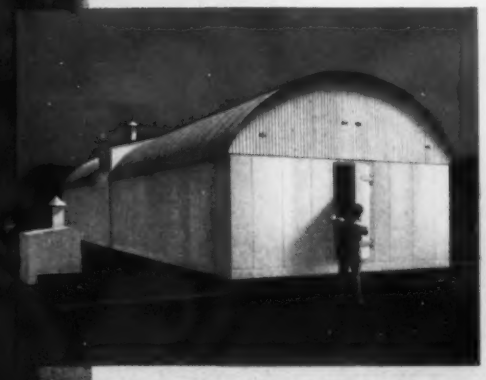
Note: This editorial, prepared in cooperation with the campaign conducted by The Advertising Council, Inc.

Dana Chase

EDITOR AND PUBLISHER



New Cincinnati Flo-coater automatically paints fan parts, wheels, housings and assemblies at NuTone, Inc., Cincinnati, Ohio. Unit conserves paint formerly lost, boosts production speed.



Huge Cincinnati gas-fired baking oven at NuTone, Inc., is roof-mounted, frees valuable plant floor space for assembly and other operations. Painted parts are automatically conveyed through 15 minute baking cycle.

SAVES $900 A WEEK

...new Cincinnati Finishing System at NuTone

This automatic painting and baking system, designed by CINCINNATI for NuTone, Inc., world-famous manufacturer of door chimes, ventilating fans and kitchen hoods, has increased production, sharply slashed finishing costs and doubled capacity per square foot area.

The former method used by NuTone, to spray parts and assemblies for their products, consumed large quantities of paint. With the new CINCINNATI system, paint consumption is reduced to from 35 to 50% of what was formerly required.

Add to this a substantial increase in production, and you realize the unbelieveably higher efficiency NuTone has achieved, while saving more than $900 per week!

Take a look at your finishing costs. Better yet, have a CINCINNATI Cleaning and Finishing engineer take a look at them. He'll give you a no-obligation analysis that can point to real savings for you. Write today!

OPERATION CYCLE

1. Loading
2. Flo-coating
3. Excess paint runoff
4. Baking
5. Touch-up
6. Unloading

Conveyor speed 10 ft. per minute
Baking temperature 280°F.

CINCINNATI designs, manufacturers and installs complete cleaning, finishing and baking systems, custom-built for your requirements.

Cincinnati

THE CINCINNATI CLEANING AND FINISHING MACHINERY COMPANY

2004 HAGEMAN STREET SHARONVILLE, OHIO, U. S. A.

AGA—37TH ANNUAL CONVENTION

Mayor Norris Poulson (right) of Los Angeles shakes hands with F. M. Banks, retiring AGA president, and welcomes the 1955 Convention to Los Angeles. Banks is president of the Southern California Gas Company, Los Angeles.

OPTIMISM on the immediate and long-range future of all phases of the gas industry was sounded by delegates from throughout the nation to keynote the opening sessions of the American Gas Association's 37th Annual Convention, held in Los Angeles, October 17-19, in conjunction with the 62nd annual meeting of the Pacific Coast Gas Association.

This was the first Pacific Coast meeting of AGA, and the first ever held in conjunction with an associated organization. More than 4000 members, many with their wives, attended from every section of the nation.

The delegates were welcomed in an opening address by Mayor Norris Poulson of Los Angeles. One remark during the Mayor's address brought forth spontaneous applause. . . . . In hailing the delegates as members of an industry currently "solving industrial problems for the benefit of all the people of the United States," he added, "and you can solve them far better than the Government can!"

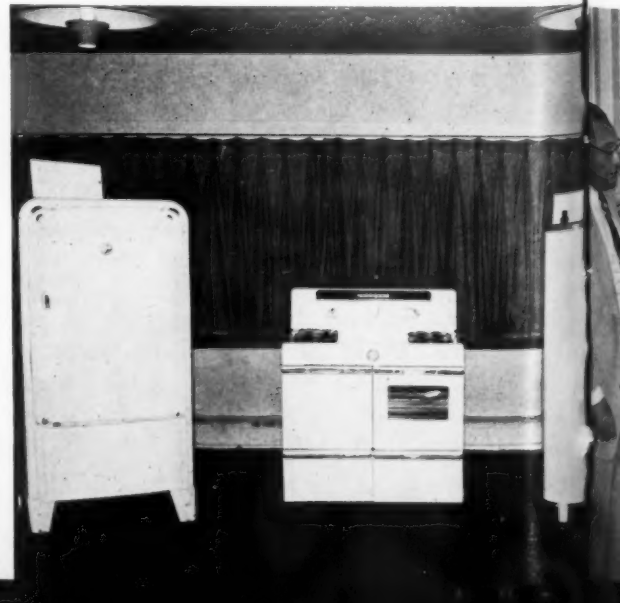
The optimism that keynoted the convention was vividly expressed in a summation of facts by L. L. Baxter, president of the Arkansas Western Gas Company, Fayetteville, Ark., in a speech before the Residential Gas section of AGA.

Sixth largest industry

"The gas industry today is America's sixth largest industry," Baxter said, "with an investment of $12 billion to serve 29,000,000 customers, and currently adding new customers at the rate of 1,000,000 a year. These customers have found some 25,000 uses for natural gas, and new uses are being added constantly. New construction by the gas industry was $1.3 billion in 1953 and is estimated to continue at the rate of $1 billion per year through 1957."

In another speech T. T. Arden, executive vice president of Robertshaw-Fulton Controls Co. and retiring Gas Appliance Manufacturers Association president, pointed out the advantageous status of the gas appliance industry in comparison with other forms of home appliance products.

In a talk during the opening general session L. Ed. Warren, vice president of The First National City Bank of New York, discussed the nation's energy needs and supplies. "Nuclear energy will play a relatively small



These three gas appliances went through an atomic blast in a house located 4500 ft. from center zero. The house was demolished, but all three appliances were in operable condition when removed from the debris and attached to a gas source.

finishfoto

DEAN H. MITCHELL
president

C. H. ZACHRY
first vice president

A. W. CONOVER
second vice president

VINCENT T. MILES
treasurer

part in total energy demand for the next 20-25 years," Warren said, "and will develop as a partner rather than a competitor to other forms of energy supply."

The newly elected president of AGA is Dean H. Mitchell, president of Northern Indiana Public Service Company, Hammond Indiana. He succeeds F. M. Banks, president of Southern California Gas Company, Los Angeles. Last year Mitchell served as first vice president of AGA and is also a member of the board of directors and the executive committee.

Other new officers are: C. H. Zachry, president of Southern Union Gas Company, Dallas, Texas—first vice president; A. W. Conover, president of Equitable Gas Company, Pittsburgh, Pa.,—second vice president; and Vincent T. Miles, treasurer of Long Island Lighting Company, Mineola, N. Y.—treasurer.

Fifteen new directors of AGA were elected for a two-year term. They are: M. A. Abernathy, vice president of United Gas Pipe Line Co., Shreveport, La.; P. E. Beckman, vice president of Pacific Gas & Electric Co., San Francisco, Cal.; R. E. Crawford, president of Minnesota Valley Natural Gas Co., St. Peter, Minn.; Lyle C. Harvey, senior vice president of Carrier Corp., Syracuse, N. Y.; John E. Heyke, Jr., president of the Brooklyn Union Gas Co., Brooklyn, N. Y.; D. E. Karn, president of Consumers Power Co., Jackson, Mich.; Wister H. Ligon, president of Nashville Gas Co., Nashville, Tenn.; Chester L. May, senior vice president of Lone Star Gas Co., Dallas, Texas; Robert W. Otto, president of Laclede Gas Co., St. Louis, Mo.; F. T. Parks, vice president of Public Service Company of Colorado, Denver, Colo.; J. C. Peterson, president of The Manufacturers Light and Heat Co., Pittsburgh, Pa.; W. F. Rockwell, Jr., president of The United Gas Improvement Co., Philadelphia, Pa.; J. Theodore Wolfe, executive vice president of Baltimore Gas and Electric Co., Baltimore, Md.; and D. K. Yorath, general manager of Northwestern Utilities, Ltd., Edmonton, Alberta, Canada.

Two convention displays attracted wide attention. First, the "Parade of Kitchens" featured the latest magazine-featured New Freedom Gas Kitchens and Laundries. Secondly, a display of gas appliances that went through "Operation Cue", a Nevada desert atomic blast, were available for all to see.

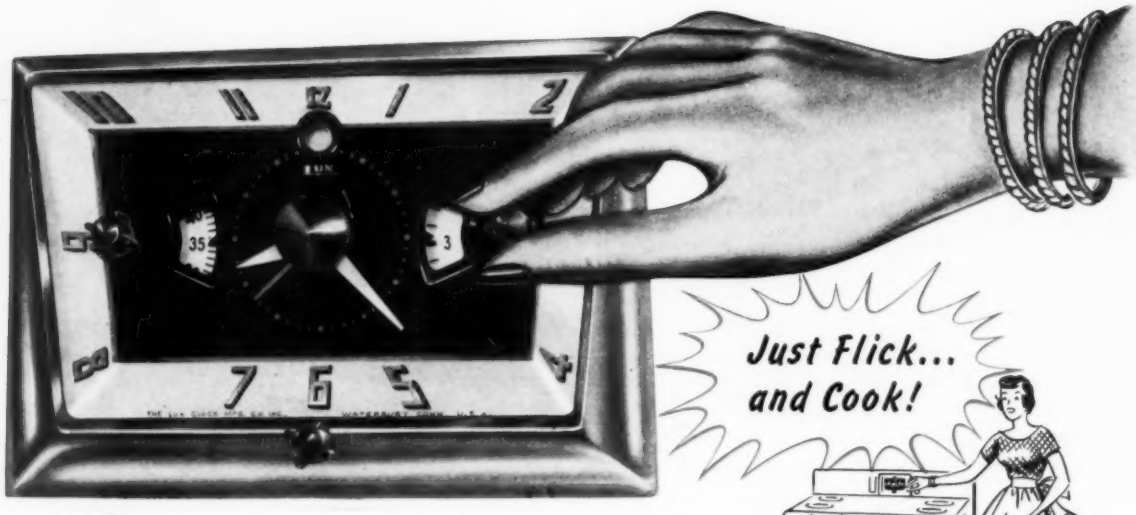
The closing session of the 1955 AGA convention was held at 12:30 on Wednesday, October 19. On Thursday, October 20, open house was held at the AGA Laboratories in Los Angeles, where convention delegates could view at first hand the operations of a National Appliance Testing Agency. These laboratories have been especially active in furthering the work of the National Safe Transit Committee as an added service to manufacturers.

A built-in gas refrigerator attracted much interest.

finishfotos

A pair of "Western Beauties" admire the advantages of a built-in gas oven at the Parade of Kitchens display.

LUX *THE* TIMER FOR NEXT YEAR'S RANGES!



EXCLUSIVE **ONE KNOB TIMING.** The type of oven control housewives have wanted for years. *Single knob* setting starts oven immediately . . . shuts it off automatically. No time-calculating, no dual control fussing. Only LUX offers this simple one knob control for a range timer's most-used setting.

Plus... FULLY AUTOMATIC CONTROL
Plus... MINUTE MINDER TOP-SIDE CONTROL
Plus... NEW SYNCHRONOUS MOTOR REQUIRING NO LUBRICATION
Plus... SNAP-IN MOUNT
Plus... 3 DIMENSIONAL STYLING

See for yourself . . . have a personal pre-view. Write, wire or phone.

DEPARTMENT F

THE LUX CLOCK MFG. CO., INC.
WATERBURY 20, CONNECTICUT

LUX Time
YOUR TIME-REMINDER LINE

El Mirador Hotel

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Gama holds 1955 meeting at Palm Springs

reports indicate new gas appliance sales records for 1955

"NEARLY all divisions of the Gas Appliance industry will top all previous production and sales records in 1955. And 1956 promises to be a better year yet!"

With this glowing statement to spark their enthusiasm, some 500 of Gas Appliance Manufacturers Association's total 600 members plunged vigorously into the work of their 20th Annual Convention, held October 12, 13, and 14 at one of the nation's most exclusive desert spas, Palm Springs, California.

While Old Sol managed to conjure from 104 to 110 degrees of midday heat throughout the meeting, gas heating, gas ranges, floor furnaces and boilers were discussed with unrequitted enthusiasm. Meanwhile, some 150 visiting GAMA ladies enjoyed the sights and advantages of an area that has become a vacation mecca for Presidents and royalty.

In short talks at a directors' meeting and press conference preceding the convention, Thomas T. Arden, executive vice-president of Robertshaw-Fulton Controls Co., Long Beach, California, and retiring president of GAMA, and H. Leigh Whitelaw, GAMA's secretary, pointed out the status of the gas appliance industry, current trends and the predictable future.

"GAMA presents the 6th largest

Carl Sorby, Geo. D. Roper and chairman, Domestic Gas Range Division, confers with Wendell Davis, Cribben and Sexton.

finishfotos

industry in the nation," Arden said. "Companies represented by GAMA produce 98 per cent of all the gas appliance products sold in America."

Arden followed by lending credence to his statement that 1955 would be a banner year, and that 1956 will be even better. "More than 29 million people will be using gas by the end of 1955. Consumption of gas this year will be 9 per cent greater than ever before. Some 6000 miles of new pipeline is being added to the 430,000 miles already in existence, which gears the gas appliance industry to one of the most elaborate transmissions systems of all time. There is every reason to believe that this system will soon be linked to the huge gas reserves in both Canada and Mexico, thereby substantially increasing the known U.S. gas reserve of 21 trillion cubic feet. . . . .

"The automation of gas appliances is leading gradually to automation of the American home. . . . . ."

H. Leigh Whitelaw said that by the end of 1956, Vermont will be the only state in the Union without a natural gas supply. Inter-connection of the existing pipeline systems will soon make it possible to deliver gas in any amount to wherever it is needed, he pointed out.

"The dependability of gas is a large factor in its mushrooming popularity," Whitelaw continued. "This dependability was proven during the hurricanes, storms, and icing conditions that harassed the East Coast in the spring of 1955. The gas-carrying pipelines remained unscathed by the elements and continued to deliver their vitally needed product into the storm-racked areas.

"A survey indicates that there are over 25,000 uses for gas in industry. As a result, industrial consumption of gas has increased 136 per cent since 1945. Commercial consumption has climbed 119 per cent, and residential consumption, 153 per cent in the same period."

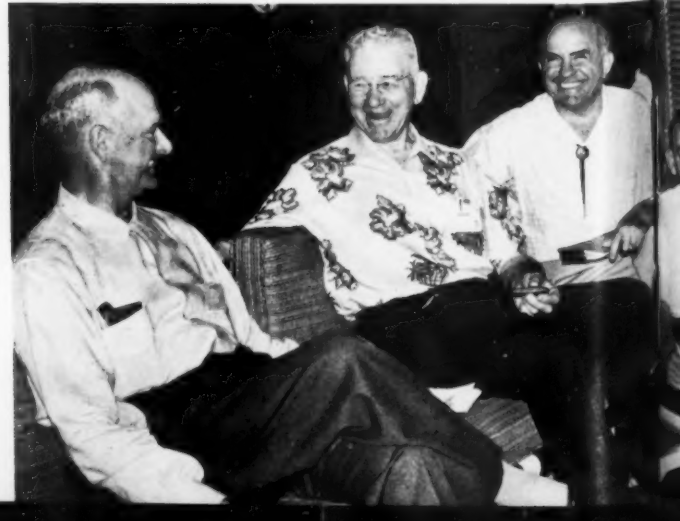
New officers

The new president of GAMA is W. F. Rockwell, Jr., president of Rockwell Manufacturing Co., Pittsburgh, Pa. Rockwell is a native of Boston, Mass., and a graduate of Penn State University. He has been head of the Rockwell Manufacturing Company since 1946, and represents the second generation in the Rockwell family to hold the top GAMA office. Col. W. F. Rockwell, Sr., his father, was the only GAMA president ever elected to two terms and held office during World War II.

Other officers elected by the 500 GAMA delegates, largest gathering in GAMA history, were: first vice president, A. B. Cameron, president, Ruud Manufacturing Company, Pittsburgh, Pa.; second vice president, Julius Klein, president, Caloric Appliance Corporation, Philadelphia, Pa.; treasurer, F. Shepard Cornell, vice president and general manager, A. O. Smith Corporation, Milwaukee, Wis.

H. Leigh Whitelaw, managing director of GAMA for the past twelve years, was named to the newly created post of executive vice president, and

Left, Jack Searls and Ed Maire, Penn Controls, and Nat Hunte[r] Belo[w] National U. S. Radiator. Below, F. M. Bank, American Gas Ass[n] and Joe Lewis, Robert-Shaw-Fulton Controls, and J. E. Kern, Paci[fic] Mill Coast Gas Assn.



Harold Massey, assistant managing director since 1946, was elevated to managing director and secretary. In the new positions, Whitelaw will act in an advisory capacity to the board of directors and concentrate on policy matters and industry and governmental relations, and Massey will be in charge of administration and management of the association's affairs.

Tom Arden, GAMA president, presenting a Meritorious Service Award to Frank H. Post, assistant vice president and sales manager, Robertshaw-Fulton Controls.

finishfotos

Division report highlights

Gas Ranges: Manufacturers of gas ranges are surpassing their conservative estimates of early 1955, according to E. Carl Sorby, vice president of Geo. D. Roper Corp., Rockford, Ill., and chairman of GAMA's domestic gas range division. At the end of 1954, Sorby said, manufacturers anticipated a 1955 increase of about five per cent over the 1954 total. But shipments for the first eight months of 1955 totaled 1,512,900 units, an increase of more than 16 per cent. Shipments in August totaled 233,400 units, highest month for the year, and 30 per cent above the same month in 1954.

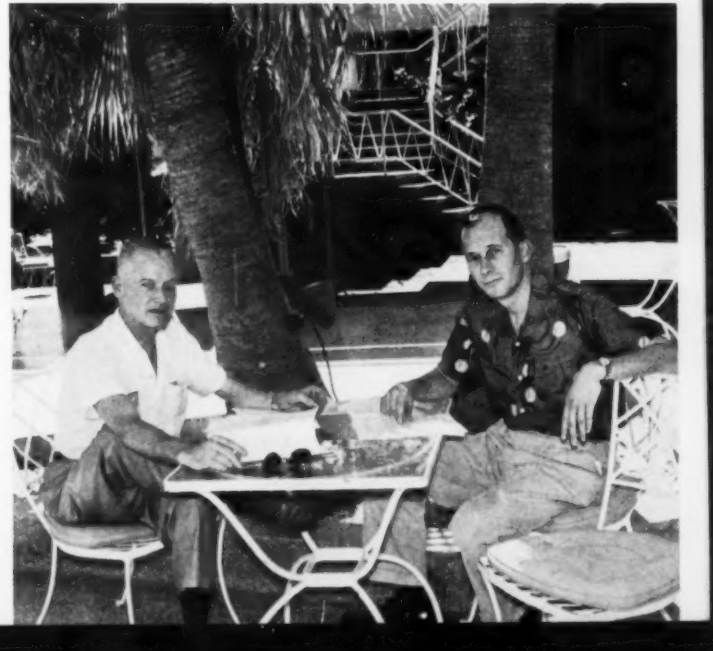
Clothes Dryers: The production of gas operated clothes dryers will hit a new high this year, according to Norman Millard, manager of utility sales for the Crosley Bendix Home Appliance Divisions of Avco Manufacturing Corp., and chairman of GAMA's gas dryer division. 1955 sales will exceed 250,000 units, surpassing the previous 1950 all-time high. Currently, gas model dryers account for more than 25 per cent of all dryer sales. Increased gas dryer promotional support by the gas utility companies is aiding substantially, Millard said.

Gas Water Heaters: Harry Carbon, president of Bastian-Morley Co., Inc., of La Porte, Ind., and chairman of GAMA's water heater division, says this branch of the industry will exceed the previous 1950 high by at least 10 per cent. 1,894,400 units were shipped during the first eight months of this year, 24 per cent greater than during the same period in 1954.

Gas Warm Air Furnaces: Most bullish of all division reports, G. W. Denges, chairman of the gas warm air furnace division, said furnace shipments during the first eight months of this year totaled 517,000 units, nearly 36 per cent above the all time high for this period established in 1954. Denges said that the total of gas central heating systems in use by the end of 1955 will exceed the total of oil heat installations. In 1945, 1,292,000 homes were equipped with gas warm air heating; by the end of 1954, 6,959,000 homes were so equipped.

Reports from most other GAMA divisions were bullish in tone, though a few exceptions were noted. Sales of gas conversion burners failed to show any increase in the first eight months of 1955, but it was pointed out that most conversion burner manufacturers also produce either boilers or furnaces, and that sales of those items far more than offset any decline in conversion burner sales. Gas incinerator sales and production are marking time, awaiting better

t Hunt Below, C. S. Stuckenholt and Norman J. Reiff, W. J. Schoenberger, Gas Ass and Howard S. Goss, (center) Harper Wyman. Right, Norman n, Paci Millard, Crosley Bendix Home Appliances, and Charles H. Rippe, Hamilton Mfg. Co.



GAMA ladies in lobby of the El Mirador.

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education of the public to the advantages of gas incineration, and in many areas, legislation concerning the use of home-type incinerators.

LP gas

It was brought out at the press conference preceding the GAMA convention that there are now some 7 million users of Liquid Petroleum Gas in America, and that all gas appliance manufacturers are building LP gas appliances which can be easily modified for the use of natural gas when it is made available. Today, LP gas is being used in from 20-25 per cent of all gas ranges, in from 13-14 per cent of all water heaters and in about 30 per cent of all space heaters.

H. Leigh Whitelaw pointed out that LP gas is now easily available to everyone and offers all the conveniences of natural gas in areas where natural gas is not yet available. Even in areas when natural gas is available, LP gas is gaining favor as a "stand by" fuel. In some installations the LP gas will cut in automatically when the supply of natural gas is accidentally interrupted.

Gas vs atomic power

President T. T. Arden pointed out that the U. S. gas appliance industry has little to fear from atomic power as we know it today. With present facilities, atomic power costs about seven times as much as natural gas in the U. S.

"There is a chance, however, that atomic power may supercede gas in countries where natural gas is not available," Arden said. "Turkey is a good example of such a country. Today, gas in Turkey costs 44 times as much as in the U. S. Atomic power, when and if it becomes available, would fit into this picture."

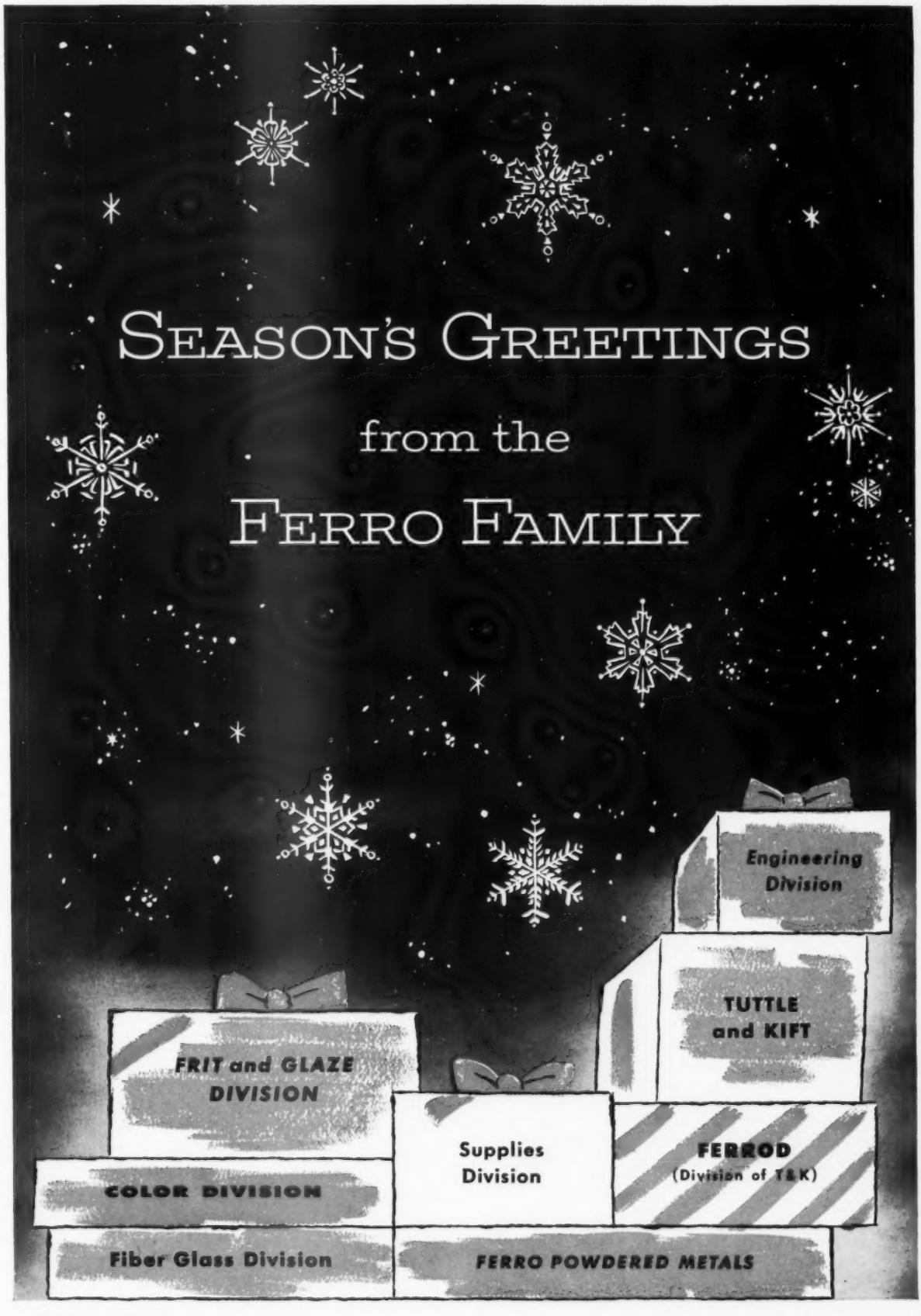
Fun and business

The 1955 GAMA convention was not lacking in entertainment features. Each afternoon, following a general session luncheon, was free to enjoy the sights and advantages of the famous Palm Springs area. Sightseeing tours were pre-arranged for the GAMA ladies. A golf tournament with numerous valuable prizes brought many convention delegates to Palm Springs well "loaded down" with golfing paraphernalia. There were evening dances both indoor and outdoor at the famous Palm Springs El Mirador Hotel.

The convention adjourned at 2:30 PM, on Friday afternoon, October 14, but numerous delegates "stayed over" to attend the American Gas Association held in Los Angeles the following week.

GAMA is scheduled to hold it's 1956 meeting at the Greenbrier, White Sulphur Springs, West Virginia.

GAMA executives meet with the press for the organization's first formal press conference (finish *editor Gilbert Close, right foreground*).


SEASON'S GREETINGS
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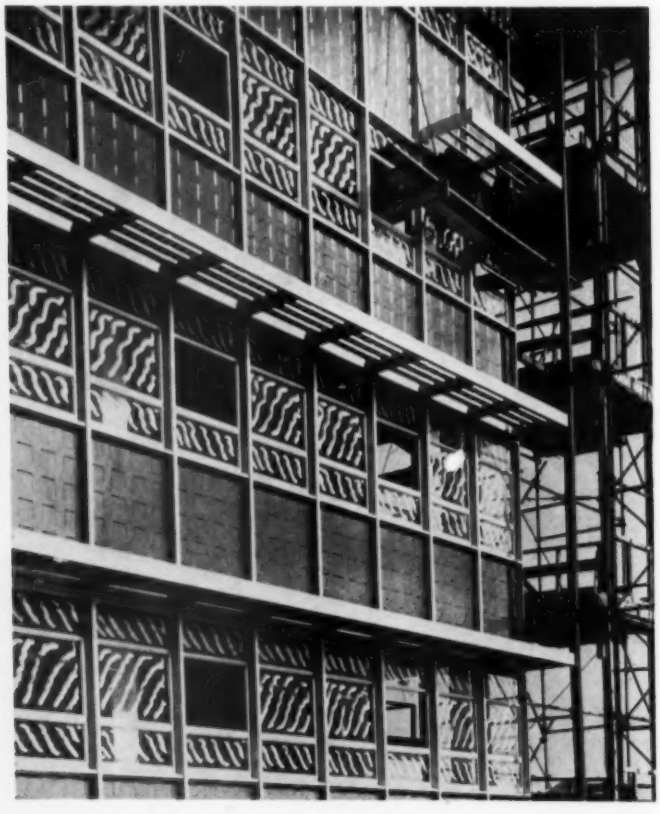
FRIT and GLAZE DIVISION
Supplies Division
FERROD
(Division of T&K)
COLOR DIVISION
Fiber Glass Division
FERRO POWDERED METALS

Installing a steel grid composed of three 4' x 4' panels.

Spandrels in "waffle" effect appear above catwalks.



This curtain wall building

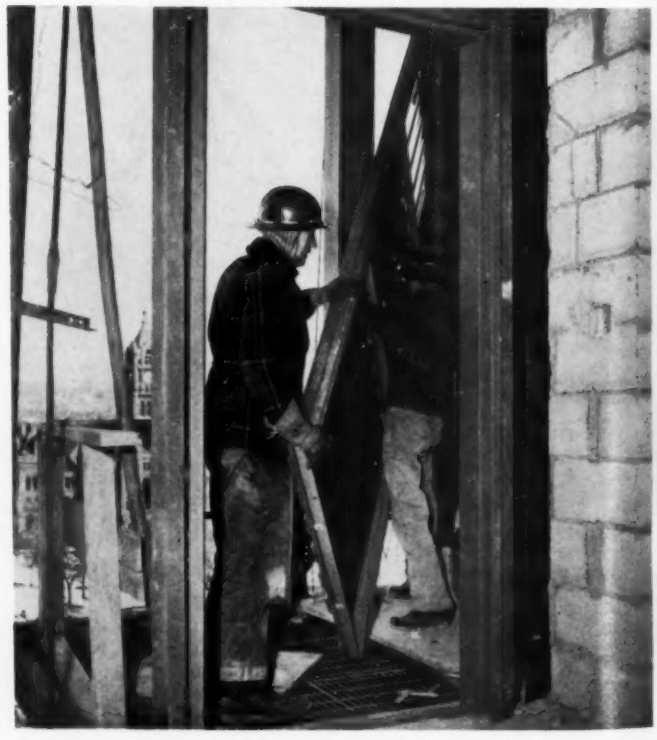
used 75,000 square feet of

SEAPORCEL Metals, Inc., New York manufacturer of architectural porcelain enamel, was responsible for the completion of the porcelain enamel exterior curtain wall for the First Security Bank building in Salt Lake City, consisting of 12 stories and a two-story penthouse. M. Jesse Salton, president of Seaporcel, which erected as well as fabricated the ceramic-coated steel panels, said, "This job represents one of the most unique and extensive applications of our material to date."

The major part of the 75,000 square feet of porcelain enamel panelling consists of shaped, vertical ribbing with a textured ceramic surface. The spandrels entail the use of 510 panels and account for 12,500 square feet of the material. These spandrels are a new type panel designed by Seaporcel to create a "waffle" effect, fabricated by stamping eight inch squares into the metal before the porcelain enamel coating is applied.

Application to the building was accomplished by

Handling steel grid composed of three 4' x 4' panels.



porcelain enameled steel

bolting three of the 4x4 foot panels to a steel grid, forming a 4x12 foot assembled unit. These units, which span a complete floor in height, were then fastened to the main structural steel by angle clips.

To insulate the building a wire mesh was fastened to the inside of the grids covering the panel back. This was then sprayed with a lightweight cement plaster which allows for proper heat, sound insulation and fireproofing factors. With the exterior wall in place, the interior finishing of the structure can progress regardless of weather conditions, since the entire building can be heated with the material installed.

The building is framed in rust-colored porcelain enamel panels with portions of the facade in off-white and grey.

Architect is Bank Building & Equipment Corporation, designer is W. Sarmiento and builder, Utah Construction.

Twelve-story building of the First Security Bank in Salt Lake City has porcelain enamel curtain-wall exterior.

Fastening wire mesh to back up panel for spraying.

Spraying cement plaster material to back of panel.

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- LOWER MILL BATCH COST!
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- FEWER REJECTS!
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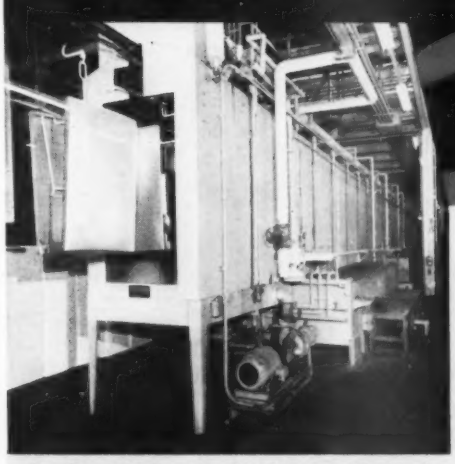
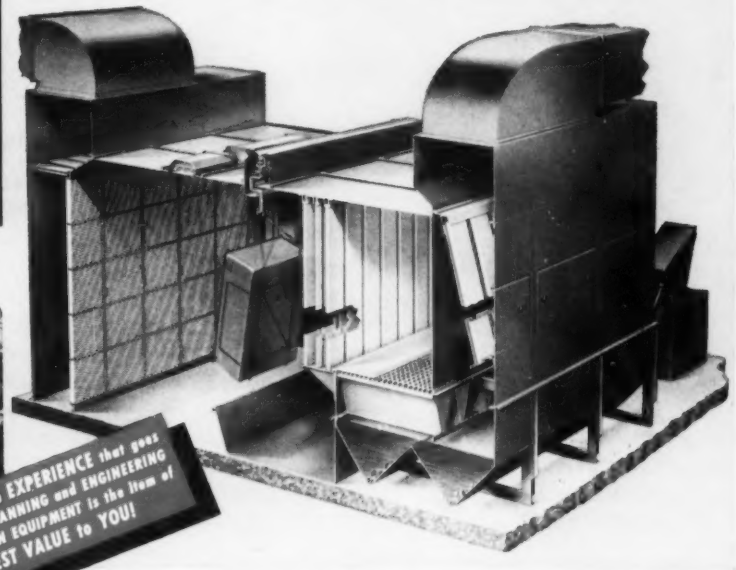
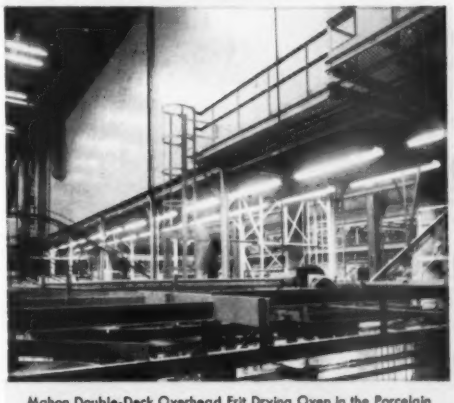


One of Two Mahon Seven-Stage Metal Cleaning and Rust Proofing Machines designed for processing Refrigerator Parts and installed in the plant of one of the world's largest manufacturers of Home Appliances.



. . . the EXPERIENCE that goes into the PLANNING and ENGINEERING of MAHON EQUIPMENT is the Item of GREATEST VALUE to YOU!

One of Four Mahon TYPE 54 AC-F PUMPLESS Hydro-Filter Spray Booths installed in the Porcelain Enamel Finishing Line of the same manufacturer referred to above. Note tubular sludge unloading conveyor casing at bottom of sludge tank.



Mahon Double-Deck Overhead Frit Drying Oven in the Porcelain Enamel Finishing Line of the same manufacturer referred to above. Other Mahon equipment in this finishing operation includes Dry-Off Ovens, Cooling Tunnels, Brushing Booths, Touch-Up Booths, Filtered Air Supply System and other Special Items.

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Mahon Type 54 AC-F Hydro-Filter Spray Booth, designed especially for Frit Spraying in porcelain enameling operations, is a departure from the conventional water-wash spray booth. There are no recirculating pumps. The normal exhaust fan, used to ventilate the spray booth, provides the washing action through air accelerators which impinge the airborne frit particles into the surface of the water in the sludge tank. Dry baffle plates are provided in front of the Hydro-Filter chamber for maximum recovery of Frit. The bottom of the sludge tank is in the form of two "V" shaped hoppers with the continuous conveyor of the automatic sludge unloader at the bottom. In the development of Type 54 AC-F, Mahon engineers have not only produced a highly effective Frit Booth, but, through elimination of high pressure pumps and the addition of the automatic sludge unloader, have reduced operating cost and maintenance to an absolute minimum. If you have a finishing problem, or are contemplating new finishing equipment, you will find that Mahon engineers are better qualified to advise you on both methods and equipment requirements . . . and better qualified, also, to do the all-important planning and engineering of equipment—which is the key to fine finishes at minimum cost. No matter what you paint, or by what process, Mahon equipment will serve you better . . . because its engineered better and built better for more economical operation over a longer period of time. See Mahon's Insert in Sweet's Plant Engineering File, or write for Catalog A-656.

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MAHON

from the Los Angeles plant of Chrysler Corporation, where a new metal preparation and finishing plant went into operation for 1955 models, comes the story of . . .

Phosphatizing auto bodies at Chrysler

by Gilbert C. Close • WESTERN EDITOR

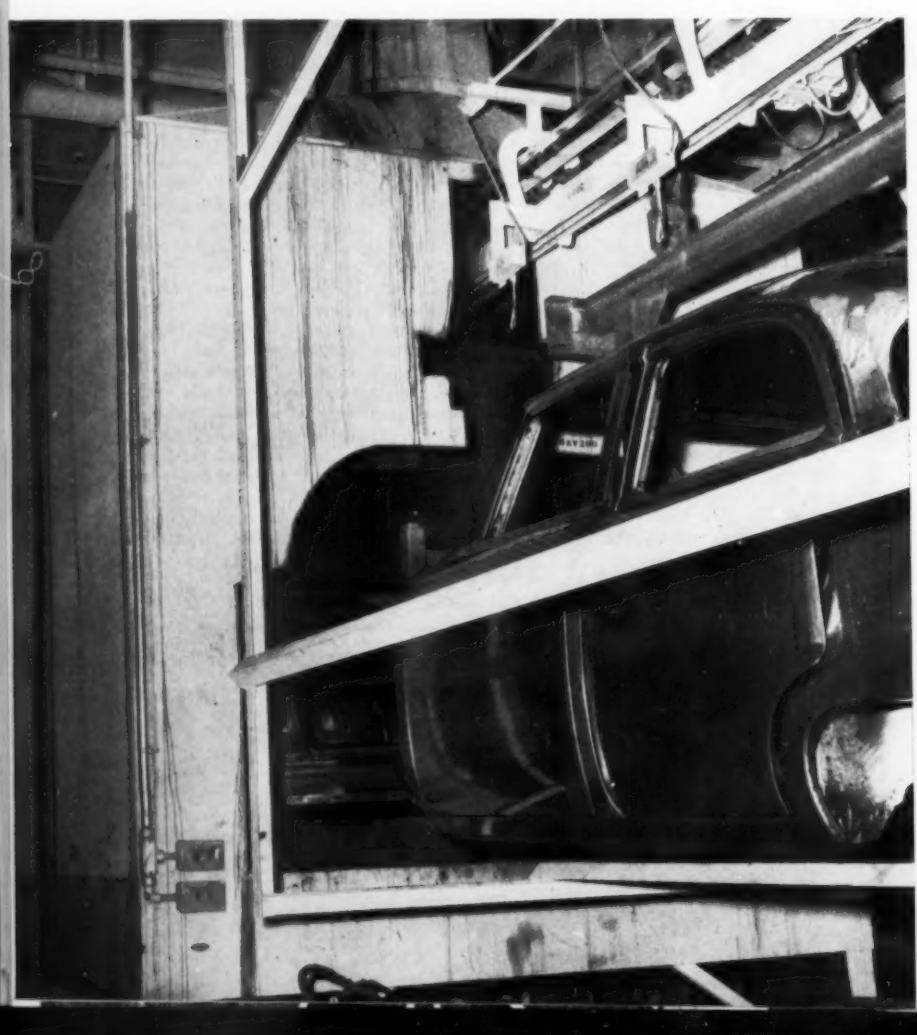
Exclusive feature finish

When production of the 1955 models began, Chrysler Corporation's huge new body finishing department in the company's Los Angeles plant swung into full-scale operation for the first time since it started building early in 1954. The production potential of this new department is some 800 auto bodies during two 8-hour shifts, with each body fully surface treated, primed, painted, inspected and ready for the final assembly line.

This department contains many new and unusual features used for the first time in auto body finishing work, or at least in a vastly improved state over previous installations. More than 50 miles of piping, comprised of 56 different lines carrying 52 different colors, deliver paint from the mixing building to the automatic paint guns in the various paint booths along the line. An automatic paint booth air conditioning system using 13 coordinated air make-up units can deliver up to 1,400,000 cubic feet of air per minute into the various booths, with the air at just the right temperature and humidity for the painting process involved.

The overhead conveyor system operates at different speeds along different sections of its route. This is to facilitate optimum spacing between the bodies on the conveyor — substantial spacing during travel through the paint booths to provide ample working space and short spacing during travel through the drying and baking ovens to reduce the necessary oven length. The crossover of bodies from one section of the conveyor to another is fully automatic.

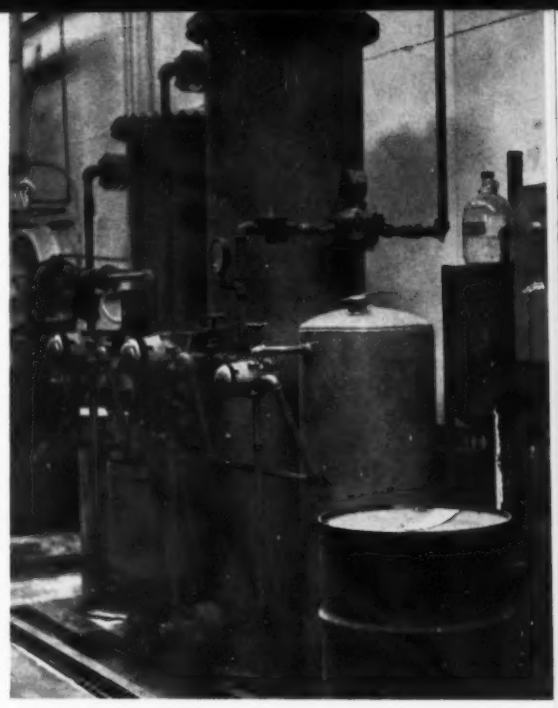
One of the outstanding installations in the new department is the large double-unit fully automatic set-up for the cleaning and surface treatment of the bodies and body components prior to finishing. One chamber in this set-up handles auto bodies only; the other handles the various



An auto body being conveyed into the huge phosphatizing chamber installed in the body finishing department at Chrysler Corporation's Los Angeles plant. Note shape of opening into chamber to conform with body contours. Baffles between the processing stations within the chamber have same shape to minimize intermixing of solutions.

Left: Here, at a small workbench, located directly between the two chambers for the sake of convenience, the solutions undergo an hourly analysis.

Right: This unit furnishes some 8500 gallons per hour of de-ionized water for the final rinse operation.



body components that are assembled after finishing.

The phosphatizing installation is as automatic as industrial science can make it. Temperature control, de-ionized water (water minus any harmful salts) for the final rinse, sludge pumps to remove settlings from the various solution sections and other pumps to replenish the chemical solutions when analysis shows that they need it, are all in-built features.

Overall length of the installation is 217 feet. The body unit has an output of 51 phosphatized auto bodies an hour. These bodies are suspended at 16-foot intervals on an overhead conveyor chain and carried through the chamber at a speed of 17 feet per minute. The treatment is conventional — first, a hot cleaning solution, then two rinses, followed by a hot acid treatment for rust proofing, another rinse, and then a mild chromic acid treatment in a solution using de-ionized water to provide a good paint base.

Conveyor speed through the miscellaneous parts unit is 28 feet per minute, with a production potential of 67 complete auto body sheet metal sets per hour. Burner tube capacity in the body unit is 15,010,000 Btu an hour and in the miscellaneous unit is 28,900,000 Btu an hour. This heat is used to maintain the required solution temperatures ranging from 135 to 170° maximum. The body unit contains a total of 8300 gallons of solution; the miscellaneous chamber contains 14,150 gallons. Down-blast burners are used with the hot gases from the burners feeding directly through the solutions. As a safety measure the exhaust fans must be in operation before the burner tubes can be lighted. The burners are cooled by circulating the solutions around them.

The conveyor chain is washed continuously in the No. 2 zone of each unit. Air blow-off on each chain is maintained in the No. 6 zone so that droplets of the solution will not follow outside then drop on the auto

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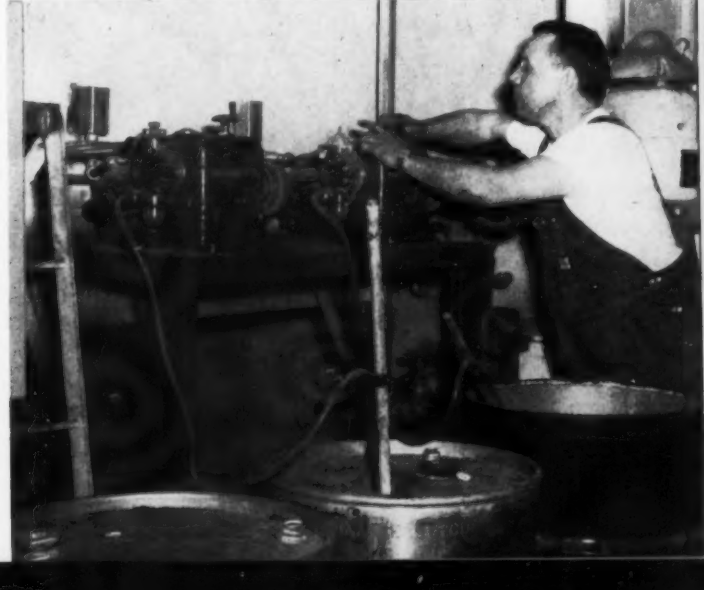
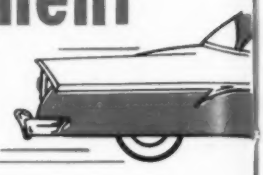
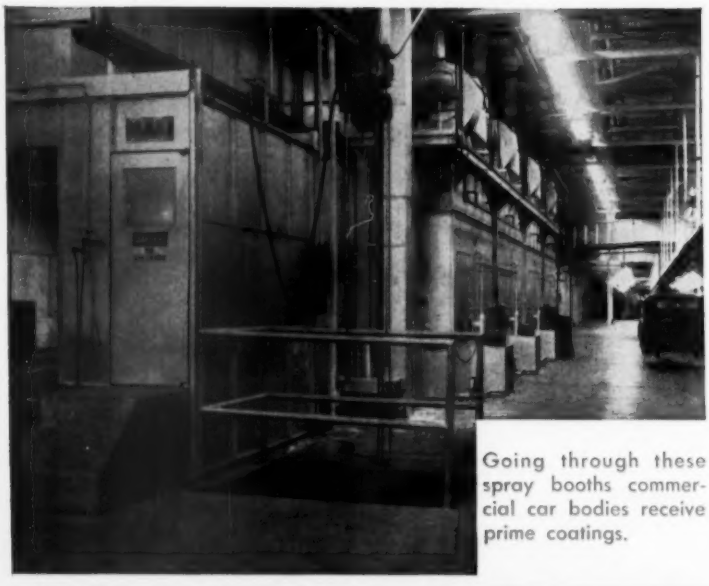
hangeover station on the overhead conveyor just beyond the hosphatizing unit and drying oven. The changeover is entirely utomatic and respaces the bodies on the conveyor to provide more workspace between them during priming and painting.

When additions to the processing solutions are required (as determined by chemical analysis), the required chemicals are pumped into the proper solution directly from the shipping container. This eliminates the possibility of transfer contamination.

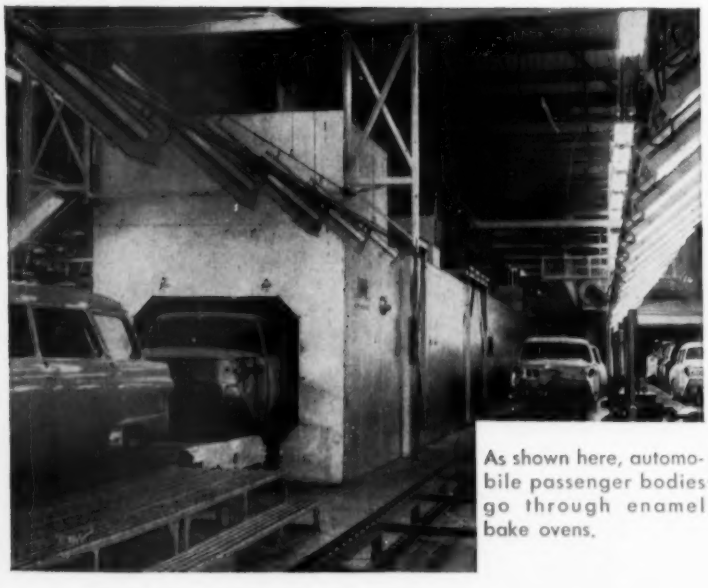


Watch 'em go by — when *FINISHED* in P-D equipment for a Fine Future





Going through these spray booths commercial car bodies receive prime coatings.



As shown here, automobile passenger bodies go through enamel bake ovens.

A major automobile manufacturer has recently completed construction of a plant and facilities in a southern city. In this new plant a complete finishing system has been installed by PETERS-DALTON. P-D engineers laid it out on a one floor level to conform with the manufacturer's precept. Automobile bodies pass through the several finishing stages, including metal washing, wet sanding, bonderizing, prime coating and final multi-color paint finishing, in rapid succession. The assurance of this smooth and safe production is largely due to the P-D Hydro-Whirl Method of cleaning paint-laden air. The entire finishing system is set up to meet the public's demand for varied and multi-colored automobile finishes without any delays or change-overs that could cause production schedules to bog down. To do this requires special equipment — designed, engineered, and fabricated by a firm which has established its reputation of having the knowledge and experiences so essential for meeting special finishing needs.

Manufacturers in widely varied phases of industry recognize the efficiency of P-D design and engineering, knowing that Peters-Dalton specializes in the installation of tailor-made finishing systems to meet all industrial requirements—from a single spray booth to the development of complete finishing systems such as this.

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investigation will show the possibilities for lower costs, greater safety and longer blade life that result from perfecting the technique of . . .

Slow speed sawing of metals

by John Roush • METHODS ENGINEER, RYAN AERONAUTICAL COMPANY, SAN DIEGO, CALIFORNIA

RYAN methods engineers have drastically slowed down the speed of friction sawing to uncover several important economic advantages. Made with inexpensive box strapping and clock spring materials, these studies verified what other companies have previously disclosed concerning the advantages of using "homemade" band saw blades. In addition, the Ryan investigations explored a new region of "slow speed" sawing techniques to reveal extra benefits which can be realized.

The tests were conducted using several large and several small band saws. In these machines, ordinary box strapping (.050″ x 3/8″) and inexpensive clock spring (.020″ x 1/4″) were compared with conventional, toothed band saws in sawing a variety of gauges of stainless steel, mild steels and titanium. Saw speeds were varied from 2000 surface feet per minute to 15,500 sfpm.

The investigators found that inexpensive box strapping and clock spring material will cut stainless steels, mild steels and titanium quite well. In every case, conventional, toothed saws will cut these metals at a faster rate. However, in many instances this is not an advantage because the toothless strapping will cut as fast as an operator can follow scribe lines.

Because the box strapping and clock spring are toothless, this material is more difficult to control in following scribe lines than toothed saws. Several guides were developed which provide the required stability and control for the toothless sawing and which have also demonstrated their effectiveness in improving work done with toothed blading .

The principal advantages shown to exist when "homemade" toothless saws are used are:

1. *Longer life:* Toothless blading lasts up to ten times as long as conventional saws. This is due to the extended fatigue life which these cheaper alloys possess because the saws always fail from metal fatigue. This desirable longevity means far less work stoppages and machine "down time" to replace broken blades.
2. *Lower costs:* Reduced costs are realized through two factors. First, the toothless material costs only about 80 cents per

This large band saw, using toothed blading, is typical of the band saws which Ryan uses to saw stainless steel exhaust system components. This type of equipment will continue to be utilized for the vast majority of work at Ryan.

Reduced saw speeds permit the use of smaller, less expensive band saws such as this model. The operator is sawing a stainless steel exhaust system section at 4500 sfpm with toothless blading of clock spring.

blade, including welding, while conventional saws cost between $2.50 and $3.00 each. Second, the greatly extended life of the toothless saws add another cost advantage to their use. Ryan estimates that direct material savings of approximately $225 per year per saw can be achieved with the less expensive material.

3. *Greater Safety:* Although this is not a large factor because of the protective equipment which operators wear, there is a safety advantage attached to the use of toothless blades. Due to their physical properties, these blades always break with a collapsing, accordion-like action. Conventional saws snap with a whip-like action which is more apt to cause injury to employees.

There are certain disadvantages accruing to the use of toothless saws which must be weighed in each application to determine if the cheaper material should be used. Heavier pressures must be exerted by the operator in order to saw the parts. Substantially greater deposits of burr are formed because the smooth-edged blades do not remove the accumulated burr as well as the toothed edges. This necessitates added labor or processing for burr removal. Employees tend to resist the use of toothless sawing because they usually do not like the "feel" of the blade and because added pressure is often required to perform satisfactory work. This requires better training techniques in showing employees how to use the saws.

These advantages and disadvantages were indicated in experiments with the toothless blades operating at band saw speeds from 8500 to 15,500 sfpm. When the region was explored below 8500 sfpm, two additional advantages were discovered which made toothless sawing more useful for certain types of work.

It was found that the minimum speed at which sawing could be accomplished was 2600 sfpm. The ideal speed for the work was discovered to be 4500 sfpm. Toothless blade sawing at these speeds presented these two advantages over higher speed ranges:

1. *Reduced burr:* Far less burr is caused at low speeds than is experienced when sawing within the 8500-15,500 sfpm range. Burr begins to decrease at 6500 sfpm and down. Burr greatly increases above 8500 sfpm. In most cases, the small amount of burr which results at 4500 sfpm is comparable with the burr accumulated when sawing with toothed blades.
2. *Lower costs:* Lower speeds permit the use of smaller, less expensive band saws. This reduces investment in equipment and provides greater flexibility in sawing operations. Another saving is due to the fact that these smaller saws require only 8 feet of blading compared with the 19½ feet of the larger models.

A test was conducted with a large band saw in which speeds were reduced to 4500 sfpm and toothless blading was used. This was not satisfactory because of the heat generated by the blade which overheated the saw's steel tires. Possibly, the installation of rubber tires would correct this situation. It was also found that the larger saws exert pressure which continually tends to stretch the toothless material.

An interesting example of the usefulness of toothless sawing was a titanium job which methods engineers tackled. This involved the cutting of

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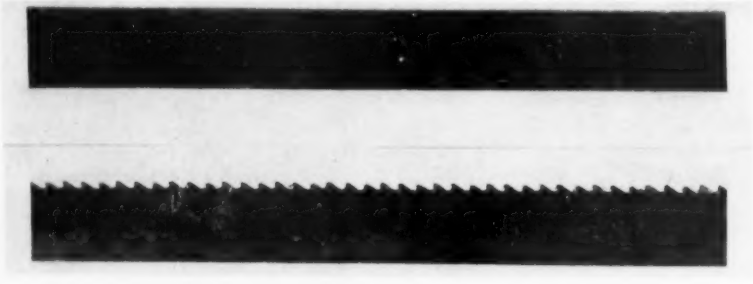
Comparison between standard toothed blading and less expensive toothless clock spring used in slow speed sawing technique.



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3360 W. HOPKINS ST. • MILWAUKEE 16, WISCONSIN • Phone CUSTER 3-3800

[Advertisement]

IF YOU USE SET-UP WHEELS . . .

here are facts to prove you can save from $301 to $2184 *each* year at *each* set-up wheel station.

First, let's examine the upkeep costs of set-up wheels (rag wheels). In a survey just completed, set-up wheel users reported the cost of recoating these wheels to be from 12c to 32c each. These figures were for labor and material only. The survey also showed that one operator uses from 6 to 40 wheels every day.

Thus, taking an average recoating figure of 22c — a conservative figure of one operator using 10 wheels a day — and a 250-day production year . . . the yearly upkeep cost of set-up wheels for one operator amounts to $550.

To this cost must be added the replacement cost of worn out wheels. The survey showed that one operator will wear out a minimum of 60 set-up wheels in one year. At a replacement cost of $3, this adds another $180 to the total.

The total is now $730 — the cost per operator per year using set-up wheels.

There is another answer. Numerous on-the-job tests have proved that Nu-Matic Aircore Air-Inflated Grinding Wheels will handle the same production work assigned to set-up wheels — and will produce results that are somewhat superior.

How do Nu-Matic Wheels compare with set-up wheels on costs? When a Nu-Matic Grinder is used, the upkeep costs stem from the replacement of worn coated abrasive bands. A recent cost study made by one of the largest appliance manufacturers shows that they get three times more work finished with one abrasive band on a Nu-Matic Grinder as they used to from a similarly sized set-up wheel.

Thus, if an operation requires 10 set-up wheels a day, the same job will wear out approximately 3 abrasive bands each day — a total of 750 bands in one year. Figuring 60-grit glue bonded abrasive bands for a 5" x 2½" Nu-Matic Grinder, band cost varies between 17.3c and 24c depending on quantity purchased. Using an inbetween price of 21c, the yearly bill for abrasives would amount to $157.50.

There is one replacement item on a Nu-Matic Grinder — the contact drum. Two drums a month per operator is a high figure. This adds another $96 to the yearly upkeep costs. Adding these figures together we get a total of $253.50 — the upkeep cost per operator per year when a Nu-Matic Grinder is used.

What's the payoff? A yearly saving of $476.50 for each operator. One of our customers has 150 set-up wheel operators. We can save him $71,475.00 each year in *direct* costs alone. This represents a potential increase in net profits before taxes. Add to this the savings realized by the elimination of the overhead necessary to operate a set-up wheel recoating department.

If your direct cost for recoating each set-up wheel is greater than 15c (we have assumed 22c), then a searching examination of your set-up wheel operation is in order. Begin that examination with a set-up wheel vs. Nu-Matic Grinder cost comparison AT OUR EXPENSE. We will ship you a Nu-Matic Aircore Air-Inflated Grinder for a 25-day free trial period. Just send us a letter outlining the job requirements and the size set-up wheels you are using now. We'll do the rest.

Here's a tabulation of the above figures:

COMPARATIVE COSTS — SET-UP WHEELS VS. NU-MATIC GRINDERS

1 operator for 1 year = 250 working days

Set-Up Wheels	
Recoating wheels (10 a day) 2500 @ 22c	$550.00
Replacing worn out wheels 60 @ $3	180.00
	$730.00
Nu-Matic Grinders	
Abrasive bands (3 a day) 750 @ 21c	$157.50
Replacing contact drums (2 a month) 24 @ $4	96.00
	$253.50
SAVINGS (each operator — each year)	$476.50

As mentioned, the figures used in the above analysis are conservative. Actual savings will vary with YOUR recoating costs and the number of wheels YOU use each day. Here's a chart that shows possible savings when Nu-Matic Grinders are used instead of set-up wheels.

If recoating cost per set-up wheel is:	*If daily number of set-up wheels used by one operator is:* 10	20	30
15c	$301	$464	$684
20c	426	714	1059
25c	551	964	1434
30c	676	1214	1809
35c	801	1464	2184

These will be the yearly savings per operator using Nu-Matic Grinders.

NU-MATIC GRINDERS, INC.

8224-A Carnegie Ave. Cleveland 3, Ohio

Links of Progress

Many manufacturers are learning that IC Polyester Resins are vital links of progress because they out-perform conventional fabricating materials in many ways . . . submitting eagerly to the needs of designers and engineers. For example:

. . . If you want to cut the weight of your product

. . . If you want it tougher, stronger and more resistant to impact and corrosion

. . . If you want it to have built-in color and long-lasting durability in most environments

. . . If you would like to be able to fabricate your product in fewer pieces

. . . If you would like an edge on your competitors in quality and design

. . . If you would like a one-stop source for clear and filled resins, activators, color concentrates, gel coats and other accessories

. . . If you would like expert technical service based on fourteen years of polyester research and manufacturing experience

. . . then you should investigate the exciting possibilities of glass reinforced IC POLYESTER RESINS.

WRITE TODAY FOR THE NEW BULLETINS:
IC Polyester Resins and Accessory Products
New Opportunities with IC Polyester Resins

Interchemical
CORPORATION
Finishes Division

FACTORIES: CHICAGO, ILL. • CINCINNATI, OHIO • ELIZABETH, N. J.
LOS ANGELES, CALIF. • NEWARK, N. J. • MEXICO CITY, MEXICO

In Canada, IC Polyester Resins are sold by
Chemical Oil & Resin Company, Toronto, Ont.

WEAN EQUIPMENT CORPORATION

22800 LAKELAND BOULEVARD

CLEVELAND-17-OHIO

REPLY TO
22800 LAKELAND BLVD.
CLEVELAND 17, OHIO

WARREN OFFICE
347 N. PARK AVENUE
WARREN, OHIO

A letter of interest to Every Press User!

Dear Sir:

During the last year our company has developed a new press of revolutionary design.

We have conducted a series of tests on this machine which has been witnessed by a large group of press experts.

The net impression of these people seems to indicate that our development may preface sweeping changes in the whole field of metal stamping.

It was our original intention to restrict the application of this press to certain specialized industrial fields but it is now apparent that it has the broadest possible application and the pressure to release general information regarding its performance has been overwhelming.

We, therefore, use this open letter as an invitation to authorized personnel to see this machine in operation.

If you will express your desire in letter form on company stationery, it will receive our prompt attention.

Very truly yours,

WEAN EQUIPMENT CORPORATION

R. J. Wean, Jr.

R. J. Wean, Jr.
President

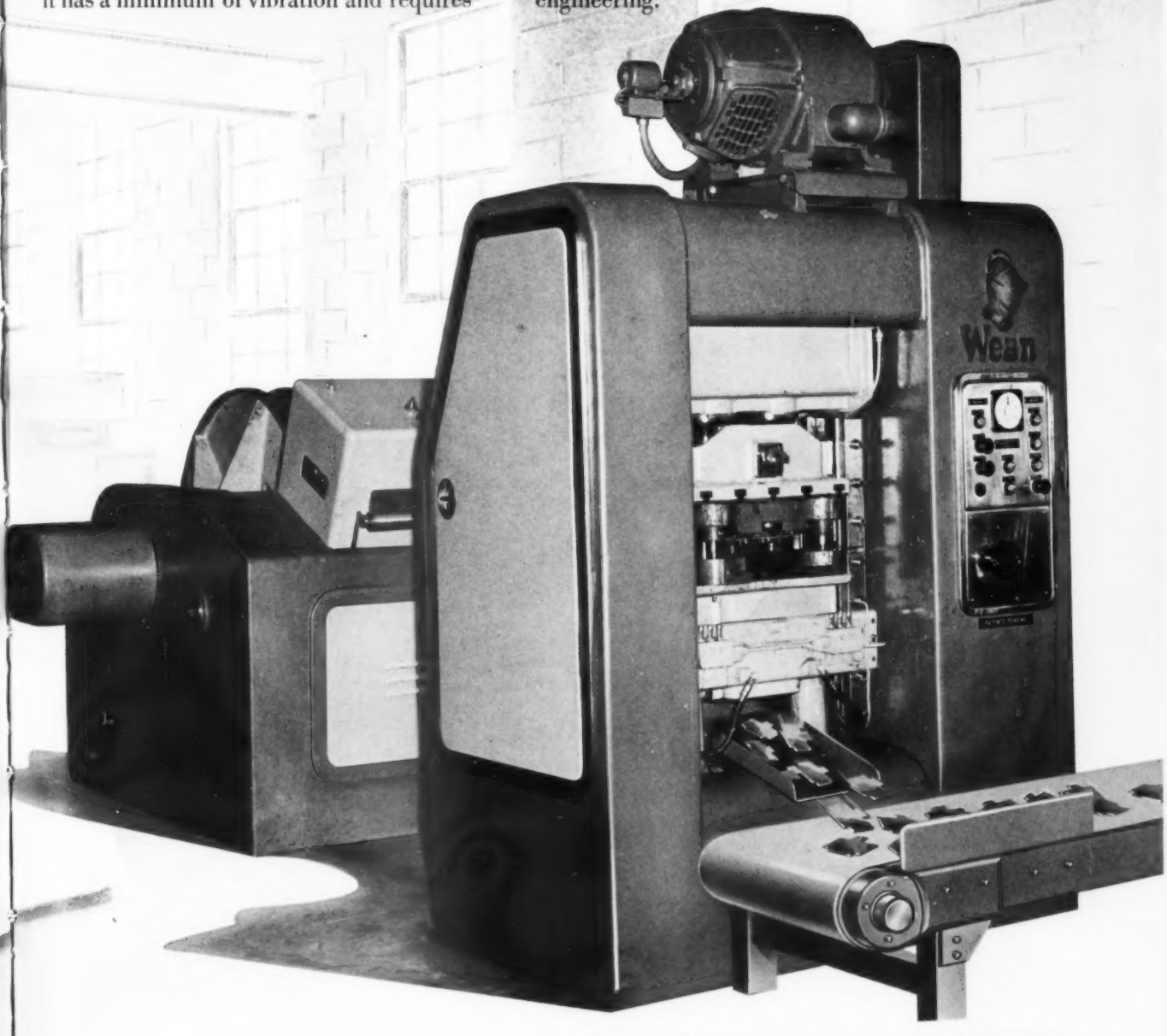
Wean

FLYING PRESS

Designed primarily for speed of operation, the Wean Flying Press is the first machine of its kind to successfully combine the fast operating advantages of continuously fed strip with dies which move with the strip.

The press differs greatly from conventional machines. Machine tool-like in appearance, it has a minimum of vibration and requires no foundation. In addition to its great speed, it incorporates several new design principles that should interest every press user.

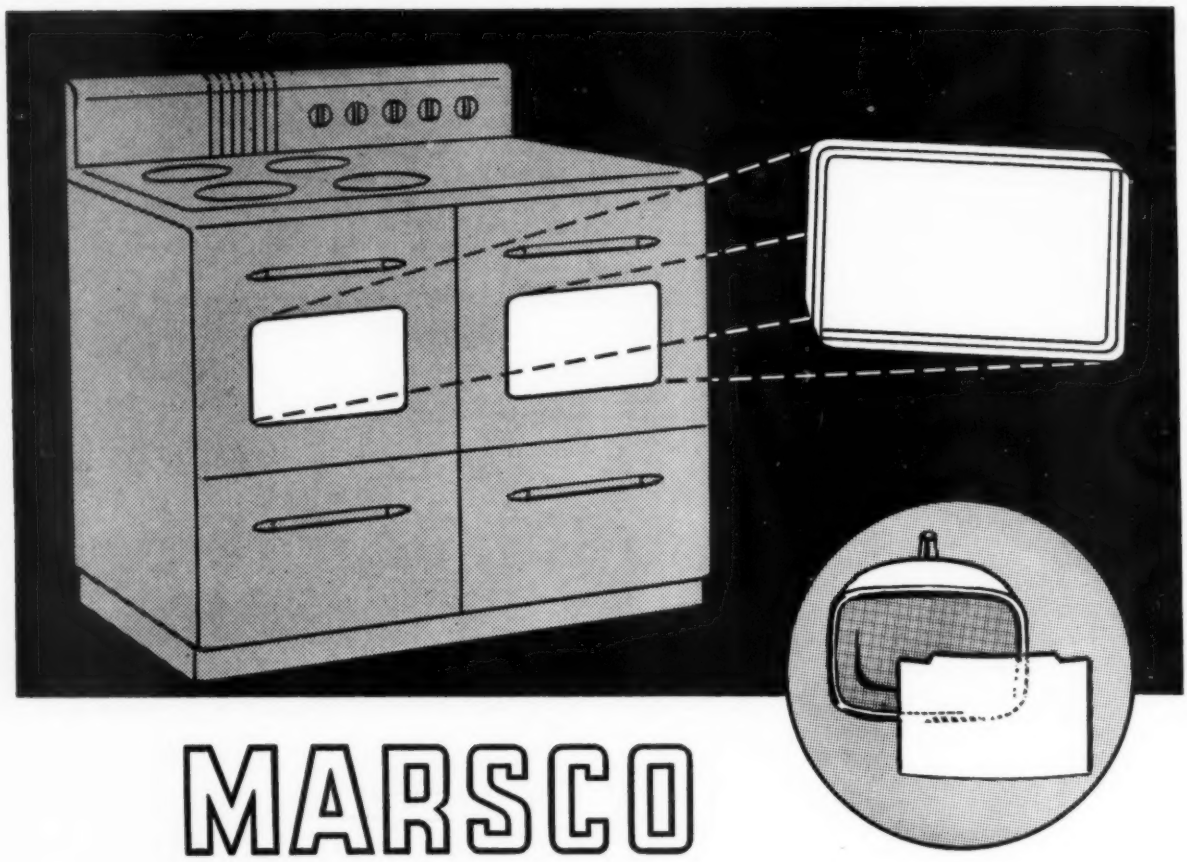
An automatic adjustment of feed length while press is in motion, and the absence of a clutch and brake (the most frequent points of maintenance on conventional presses), are two examples of this advanced engineering.



Wean 60-ton Flying Press stamping out automotive hinge plates at 600 pieces-per-minute, using the same die set which on a conventional press made the parts at a rate of but 90 pieces-per-minute.

Wean EQUIPMENT CORPORATION Cleveland, Ohio

Chicago Newark, N. J. Detroit



MARSCO

precision glass parts

FOR UTILITY AND BEAUTY

Glass — enhances the beauty and broadens the acceptance of your product whether in the utility appliance field or the growing electronic industry.

Glass — adapted with skill and precision by MARSCO to meet your product requirements — For Today — For Tomorrow.

Glass — flat as can be — precisely shaped to fit.

Glass — bent — convex — drilled — to the most exacting tolerance.

Glass — hardened, heat-treated or tempered to survive your consumer usage unscathed.

Join the major appliance manufacturers now enjoying extra sales from the appeal and prestige contributed thru the luster of glass — MARSCO'S Crystal Clear Glass.

Our engineers are experienced in incorporating glass as viewing windows in domestic appliances and television cabinets.
A simple request to us solves your problem.

Bent Glass

Convex Glass

Heat-treated Glass

Marsco

MARSCO MFG. CO., 2909 S. HALSTED ST., CHICAGO 8, ILL.

Above: Ray G. Halvorsen, executive vice president, Hamilton Mfg., was chairman of the Conference Planning Committee. With him are Dr. Esther McCabe, professor at Columbia University, who talked on soaps and detergents; and R. M. Gottlieb, vice president — sales, Ironrite, Inc., who talked on the mechanics of an automotic ironer. Left: Roy Bradt, vice president of Maytag, was chairman of the question and answer sessions during the AHLMA conference and, in addition, presented the mechanics of an automatic washer. Right: John Christensen, general manager of major appliances, Montgomery Ward & Co., talked on mechanics of the automatic dryer.

AHLMA home laundry conference

STUDENTS, teachers, educators, home service directors, members of the press and members of the home laundry appliance industry — all were present at the Ninth National Home Laundry Conference, held in the Sheraton-Palace Hotel, San Francisco, November 2-3. The American Home Laundry Manufacturers' Association, sponsors of the two-day meeting, considered it the most successful Conference in the history of the event.

Nearly a record crowd in size — 444 actual registrations were made at the desk while attendance at some of the sessions was estimated at 550 — filled the hotel's Rose Room. West Coast teachers, students and home service personnel showed their appreciation for the opportunity to participate in a working session on home laundering techniques. Personnel from virtually every college and university in the area, home service directors and their staffs, distributors, and newspaper and magazine editors attended.

Included in the West Coast attendance were 32 graduate and senior students from the Home Economics Department at San Francisco State College, approximately 30 students from the University of California at Berkeley, 6 home economics students from the California School for the Deaf, and 40 San Francisco high school teachers also attended.

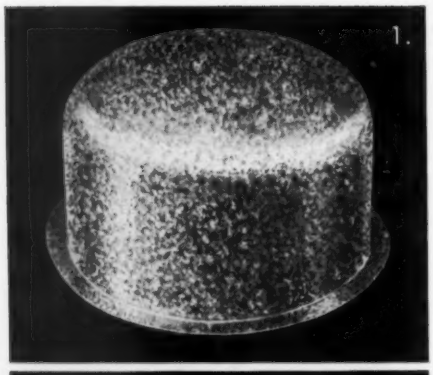
Moderating the fast-moving, straight-from-the-shoulder discussions was Dr. Elaine Knowles Weaver, associate professor of household equipment, Ohio State University. Backing her up on the platform throughout the sessions were Ray G. Halvorsen, chairman of the Conference Planning Committee, AHLMA's second vice president and executive vice president of Hamilton Manufacturing Co.; Roy A. Bradt, chairman of the question and answer committee, member of AHLMA's Board of Directors and vice president of The Maytag Co.; and AHLMA's Executive Director Guenther Baumgart.

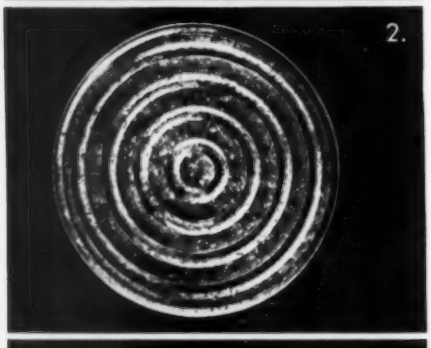
Virtually every phase of home laundering, from water, soap and textiles to the mechanics and techniques of the washer, dryer and ironer, came in for their share of discussion. Each business session was climaxed by a one-half hour long question, answer and discussion period. David Hays, consulting engineer to AHLMA, and Chet Worthington, director of service administration for Whirlpool-Seeger Corp., AHLMA member, made up a panel to answer any questions of a technical nature.

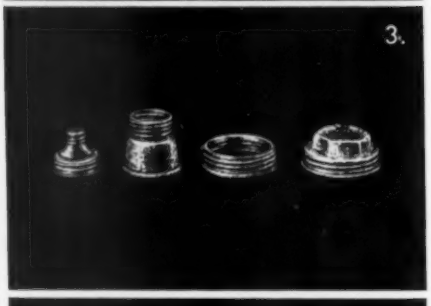
A new feature of the annual conference was a one-hour style show of completely washable fabrics. More than two-score California and West Coast garment manufacturers furnished clothes for the show which were modeled by West Coast home economists in the laundry appliance industry and by college and high school students. A running commentary by Frances Alexander, San Francisco Crosley-Bendix regional home service director, kept the show moving along in professional style.

Following the fashion show, guests boarded busses and were driven to Menlo Park, California, home of SUNSET Magazine, for a final reception and review of West Coast modes of living.

Speakers table at the Cleanliness Bureau Breakfast on Thursday morning (a regular feature of the Conference meetings) are, left to right: Guenther Baumgart, executive director of AHLMA; Ruth Goldberg, director of the Cleanliness Bureau; Ray G. Halvorsen, Hamilton; Dr. Elaine Knowles Weaver, associate professor of household equipment, Ohio State University, and Conference moderator; Roy Peet, executive director, American Soap and Glycerine Producers, Inc., sponsors of the Breakfast; Mrs. R. G. Halvorsen; W. Homer Reeve, president of AHLMA and president of Syracuse Industries; Mrs. Guenther Baumgart; and Dr. James Weaver.







A CHALLENGE:

THE STRONGEST MADE BY ANY GALVANIZED SHEET—

Anything that can be made of steel sheets can be made of

WHEELING

SOFTITE®

galvanized sheets!

Looking at the smooth, unbroken finish on these gasoline can components, you'd hardly believe they are made of a galvanized sheet. Yet, they *are!*

They are all made of Wheeling SOFTITE, the ductile galvanized sheet with the tightest zinc coating yet produced . . . so tight, in fact, that you can use Wheeling SOFTITE to make anything you can make of steel sheets.

That's SOFTITE . . . *Wheeling* SOFTITE . . . made by the company that led with the development of COP-R-LOY, the original copper-bearing steel pipe and perfected DUCTILLITE, the original cold reduced tin plate which revolutionized the tin plate industry and opened new fields to the can maker and packer. Because of the unprecedented demand for SOFTITE Galvanized Sheets, Wheeling has been forced to triple its production facilities in 1955.

IT'S WHEELING STEEL

WHEELING STEEL

DISTRICT SALES OFFICES—Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Houston, New York, Philadelphia, St. Louis, San Francisco, Wheeling

FIRST CAME **COP-R-LOY.** THEN *Ductillite* NOW WHEELING **SOFTITE®**

New PMI officers are, left to right: W. Bryant Gemmill, treasurer, The American Stamping Co., Cleveland— secretary-treasurer; C. E. Stryker, president, Maysteel Products, Inc., Mayville, Wisc. — second vice president; H. A. Daschner — managing director; Bruce Krasberg, president, R. Krasberg & Sons Mfg. Co., Chicago — first vice president; and Joseph J. Boehm — president.

P. M. I. annual meeting

DELEGATES to the Annual Meeting of the Pressed Metal Institute reported a successful get-together both from the standpoints of business and the social program. The meeting was held at Grove Park Inn, Ashville, North Carolina, October 9 through Otober 13.

The principal theme of the business sessions was "Management Methods" with attention focused on methods and procedures most likely to keep stamping plants on a profitable basis during the months to come.

The convention program was replete with social activity including a "Smoky Mountain Bar-b-Que," square dancing, hill billy entertainment and a "Sadie Hawkins' scavenger hunt," in contrast to a tour of Mt. Mitchell, a golf tournament and the PMI annual banquet.

The following new officers of the Institute were elected at the Annual Meeting for the coming year:

President:

Joseph J. Boehm, president
The Boehm Pressed Steel Company
Cleveland, Ohio

First Vice President:

Bruce Krasberg, president
R. Krasberg & Sons Mfg. Company
Chicago, Illinois

Second Vice President:

Clint E. Stryker, president
Maysteel Products, Inc.
Mayville, Wisconsin

Secretary-Treasurer:

W. Bryant Gemmill, treasurer
American Stamping Company
Cleveland, Ohio

The Board indicated pleasure at welcoming two overseas members at the meeting. Elected an active member was:

Rex Manufacturing Company, Ltd.
220 Federal Street
Auckland, C1, New Zealand
PMI Representative: Fred Bruell, Managing Director

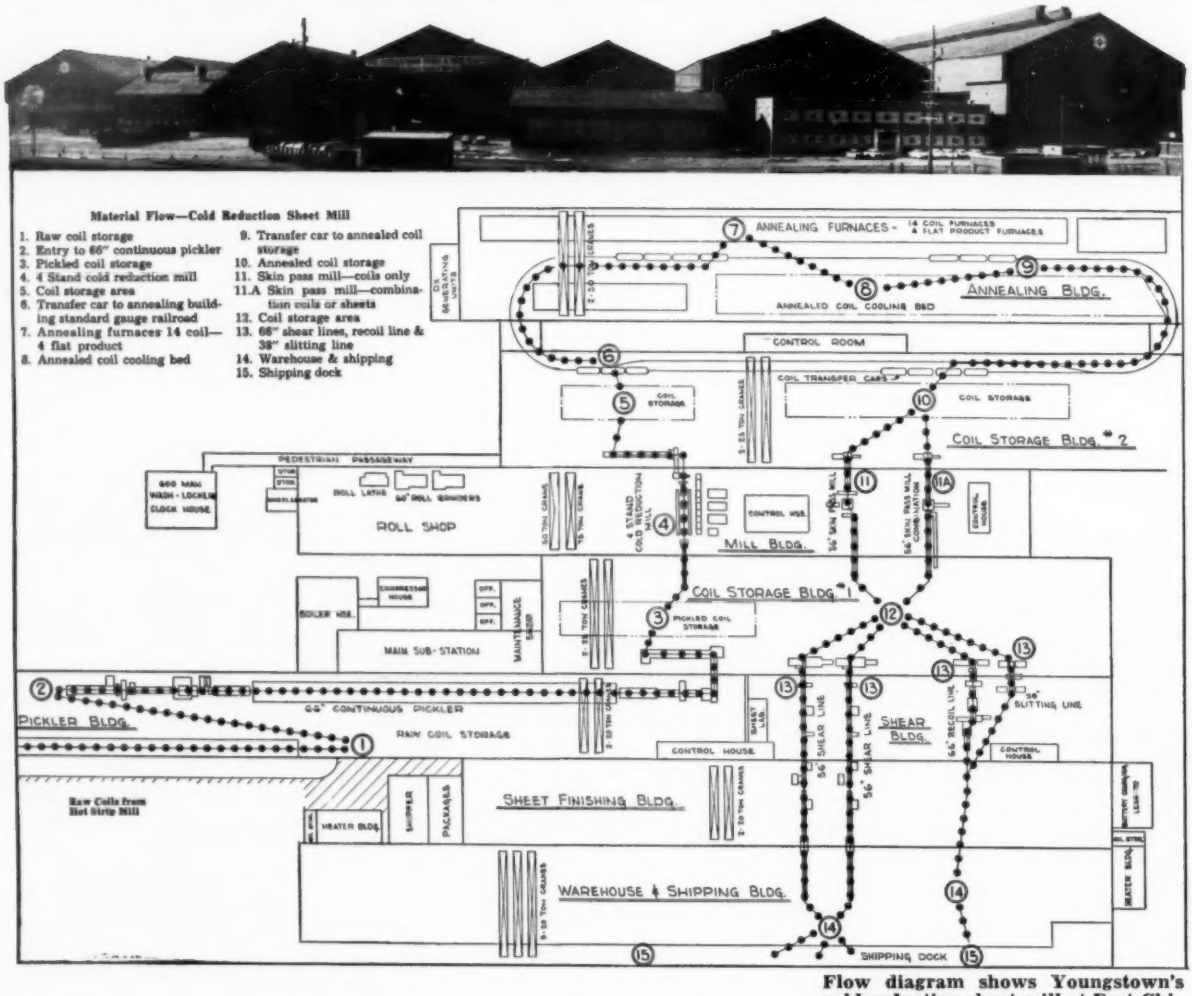
Elected an educational member of the Institute was:

Mr. Frederico Strasser
Los Platanos 3396
Santiago de Chile

Strasser is known for his many articles on the stamping industry.

Left: Carter C. Higgins, president, Worcester Pressed Steel Co., Worcester, Mass., presenting to Charles Parker, executive vice president, American Iron and Steel Institute, the Presteel Award for outstanding contributions to the metal stamping industry. Right: Sam Morrison, president, Morrison Steel Products, Inc., Buffalo, New York, retiring president of PMI, congratulates incoming president Joseph J. Boehm.

How we use 7 buildings to process quality into cold rolled sheets and strip


Material Flow—Cold Reduction Sheet Mill
1. Raw coil storage
2. Entry to 66" continuous pickler
3. Pickled coil storage
4. 4 Stand cold reduction mill
5. Coil storage area
6. Transfer car to annealing building standard gauge railroad
7. Annealing furnaces 14 coil—4 flat product
8. Annealed coil cooling bed
9. Transfer car to annealed coil storage
10. Annealed coil storage
11. Skin pass mill—coils only
11.A Skin pass mill—combination coils or sheets
12. Coil storage area
13. 66" shear lines, recoil line & 38" slitting line
14. Warehouse & shipping
15. Shipping dock
ANNEALING FURNACES - 14 COIL FURNACES 4 FLAT PRODUCT FURNACES
ANNEALING BLDG.
ANNEALED COIL COOLING BED
CONTROL ROOM
COIL TRANSFER CARS
COIL STORAGE
COIL STORAGE BLDG. #2
PEDESTRIAN PASSAGEWAY
ROLL SHOP
MILL BLDG.
COIL STORAGE BLDG. #1
PICKLED COIL STORAGE
MAIN SUB-STATION
66" CONTINUOUS PICKLER
PICKLER BLDG.
RAW COIL STORAGE
SHEAR BLDG.
SHEET FINISHING BLDG.
WAREHOUSE & SHIPPING BLDG.
SHIPPING DOCK
Raw Coils from Hot Strip Mill

Flow diagram shows Youngstown's cold reduction sheet mill at East Chicago. These facilities mean customers can reduce inventories, get quick delivery on sheet and strip they need.

● Coils come rolling in from the hot strip mill. They've been carefully watched from the time they were ingots and slabs. Now, they're ready to be cold reduced. And the same care that went into making the original steel goes into each step of the process that takes place in these seven buildings. The result: the quality sheet and strip you always expect, and get, from Youngstown. And better fabricated products for you.

QUALITY V YOUNGSTOWN SERVICE

COLD ROLLED SHEETS AND STRIP

Youngstown

THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*

General Offices: Youngstown, Ohio - District Sales Offices in Principal Cities

SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT AND EMT - MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - BAR SHAPES - WIRE - HOT ROLLED RODS - COKE TIN PLATE - ELECTROLYTIC TIN PLATE - RAILROAD TRACK SPIKES

finish SUGGESTION BOX

Router guide for lightening holes in router template blocks

saves fifteen minutes per form block

LIGHTENING holes in router template blocks are routed within tolerance in one operation by means of a router guide in use at Temco Aircraft Corporation, Dallas, Texas.

No sanding or filing is required to reach final accuracy, and the only reference mark needed by the router guide is the conventional template pilot hole.

Fly cutters formerly were used to cut holes in template blocks. Cutter slippage, off-center spindles and other irregularities, however, reduced accuracy to the point that hole-cutting required several operations.

Source for more information on this router guide may be obtained by writing to *finish*.

Form block makers customarily cut the hole to within 1/16-inch of desired diameter with a fly-cutter. Remaining material then was removed with a sanding drum and a half-round file. But even after these precautions, which required 30 to 60 minutes per hole, the work often was inaccurate.

A router guide was designed that made precision cutting possible. It was designed to fit an improved screw-type guide head built for a tilting arbor router.

The router guide rotates the form block in a circular pattern around the stationary router blade to make the lightening hole. Normally, of course, the fly-cutter moves and the form block remains stationary.

This reversal of customary procedure gives the new router guide its accuracy, according to its designer. Measurements taken from the stationary router blade to a tapered point which rests in the template's pilot hole are much more accurate than those possible with a fly-cutter.

Basically, the attachment consists of these key members: a 9-inch vertical shaft which is held by the screw-type guide head; a 13-inch-long crank attached horizontally to the top of the shaft, and a 6-inch track attached horizontally to the bottom of the vertical shaft.

The tapered point travels along this track by means of a screw traverse. A 6-inch scale on one side of the track is graduated in tenths of an inch. A circular scale at one end of the track is graduated in thousandths of an inch. Indicators on both of these scales move along with the tapered point when two handles that actuate the screw traverse are revolved.

To set up for routing a hole with a two-inch radius, the operator first lines up his tapered point with the

to Page 90 →

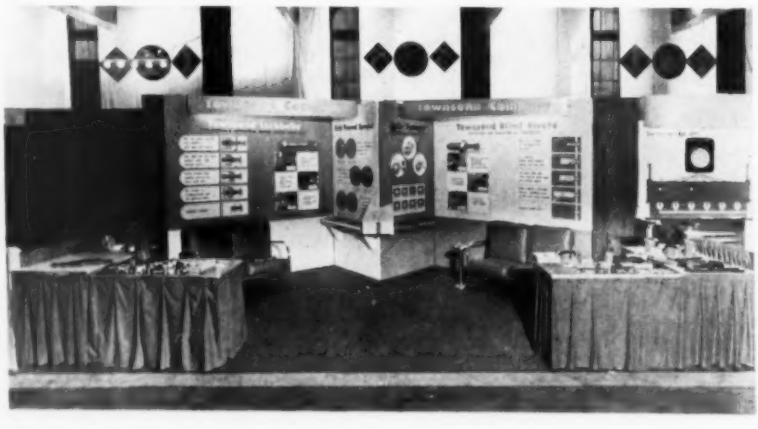
37TH Metal Exposition

CONVENTION Hall, Philadelphia, Pennsylvania, was the scene for the 37th National Metal Exposition, October 17-21, 1955. It was not the largest exposition in history but it did include 435 exhibits which were viewed by approximately 60,000 visitors. In conjunction with the exposition, the American Society for Metals also conducted the 37th National Metal Congress. Leading authorities delivered papers and conducted panel discussions on many subjects of importance to the metals industry.

It was apparent from comments from various exhibitors that Monday and Tuesday were rather slow days at the exposition. The tempo increased a great deal on Wednesday and Thursday, however, and exhibitors seemed pleased with the traffic.

One exhibit which attracted a great deal of attention was the Ransburg Electro-Coating Corp. exhibit. They had in operation a conveyorized demonstration, actually painting small parts with a disc atomizer of the type used in the Ransburg electro-spray process. Mr. Robert Stone, who was in charge of the Ransburg exhibit, said that they had a capacity audience every time they conducted the demonstration.

***Typical exhibits** . . . top — Wheelabrator Corporation, center — Binks Manufacturing Company and bottom — Townsend Company.*



NEWS

TYPHOON TO MERGE WITH HUPP

Typhoon Air Conditioning Co., Brooklyn, N.Y., and Hupp Corp. are going to merge, announced Don V. Petrone, Typhoon president, and John O. Ekblom, chairman of the executive committee of Hupp. The directors of each company have approved the merger, and it is expected that it will be consummated soon.

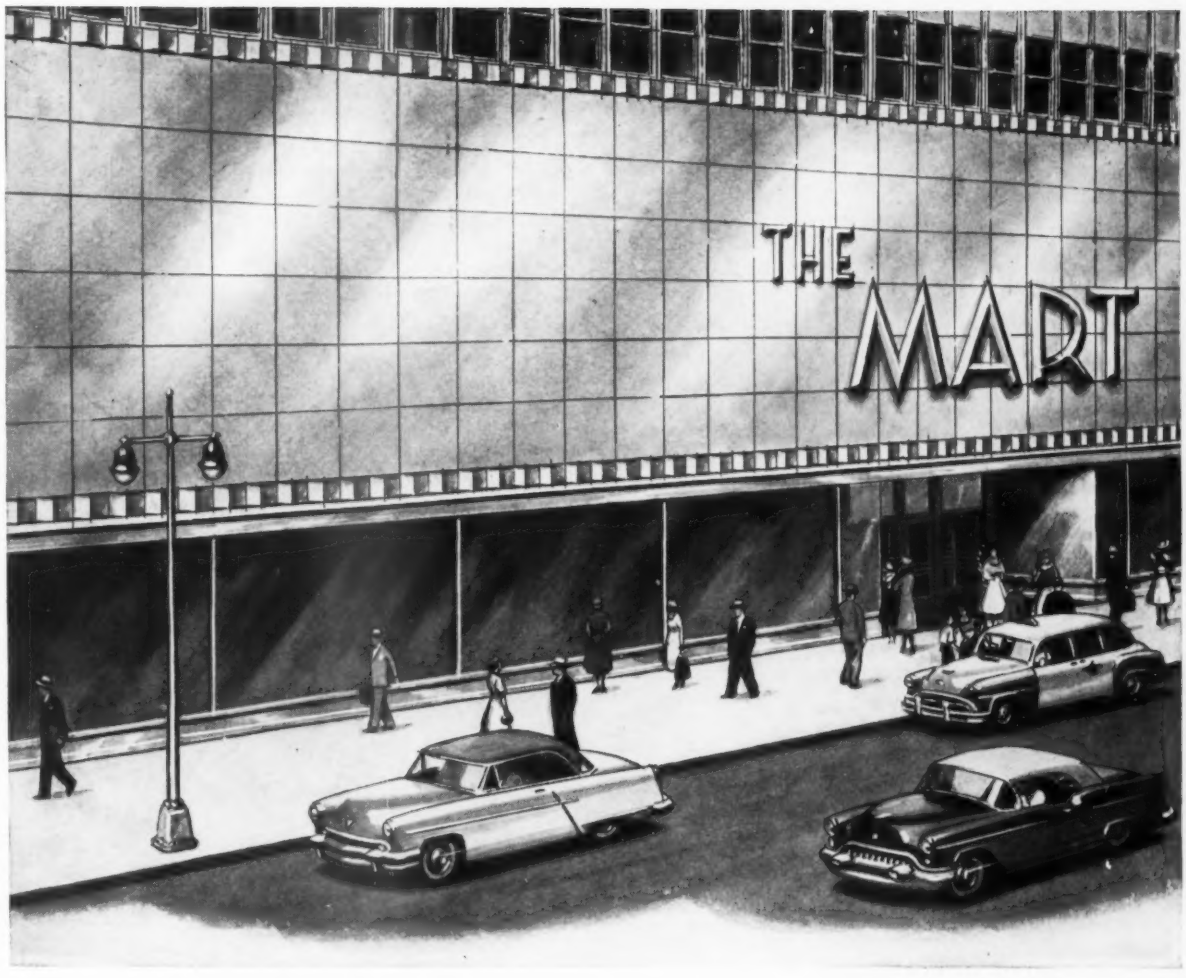
Operating as a Hupp division, Petrone will continue as Typhoon president, and Murray M. Kabili will be manufacturing vice president.

HABACH IS WORTHINGTON VP

It is reported that George F. Habach has been elected vice president of engineering for Worthington Corp., New York.

PERFECTION SELLS PLANT

The Perfection Industries Div., Hupp Corp., has sold its six-story Platt Avenue manufacturing plant in Cleveland, for $600,000, according to William H. Haag, vice president and director of manufacturing. Buyer was the M.K.W. Co., a newly-organized investors group.



put up a good front with the help of Titanox®

Colorful porcelain-enamel exterior panels are real "comers" in building construction. And TITANOX-TG titanium dioxide in the frit is the key to high acid-resistance and lifetime weather-resistance. In titania enamels, TITANOX-TG and TITANOX-TG-400, although notable for whites, are the basis for modern architectural pastels.

TITANOX-TG and TITANOX-TG-400 are made especially for porcelain enamels. Their free flow, easy handling, efficient melting and uniformity result in lower costs for the frit maker. TITANOX-TG-400 is specifically designed for blue-white enamels.

Our Technical Service Department will be glad to assist you with your frit formulation problems. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; Atlanta 5; Boston 6; Chicago 3; Cleveland 15; Houston 2; Los Angeles 22; Philadelphia 3; Pittsburgh 12; Portland 14, Ore.; San Francisco 7. *In Canada:* Canadian Titanium Pigments Limited, Montreal 2; Toronto 1.

TITANOX®

brightest name in the finish

3450

TITANIUM PIGMENT CORPORATION

Subsidiary of NATIONAL LEAD COMPANY

finish ....

on the theory that one photo equals on thou feature will bring you many photos an few metal produc fiel

Three Northwestern University students receive congratulations from W. C. Wilkinson, assistant to the president, Cribben and Sexton Co. Prize winners are, left to right: Jordan I. Rotheiser, Lawrence J. Richardson of Lincolnwood, Ill. and Clyde K. Ancell of Evanston, Ill. (first prize winner). The contest was to encourage original ideas for special features adding to the salability, convenience or safety of a free-standing domestic gas range

Norge says milady now has unlimited latitude in designing the color scheme of her 1956 refrigerator with panels that fit over the top part of the door. The caps are available in satin-chrome, copper, and gray, while the unit itself is finished in a choice of white, pink, yellow or green. There are 18 color variations.

←

This young homemaker points to "magic" Themal Eye heat control on her new gas range. New device automatically maintains cooking temperature for every food, just as set by a turn of the dial. Temperature remains constant. Overcooking and burned foods are virtually impossible with new control device.

A. O. Smith LO-BOY and HI-BOY warm air furnaces have color. The "Permaglas" insignia is in frosted copper finish. The cabinet itself except for the front is in grey hammerloid finish, and the front is a high-temperature aluminum panel. All '56 models will have ceramic coated heat exchangers.

←

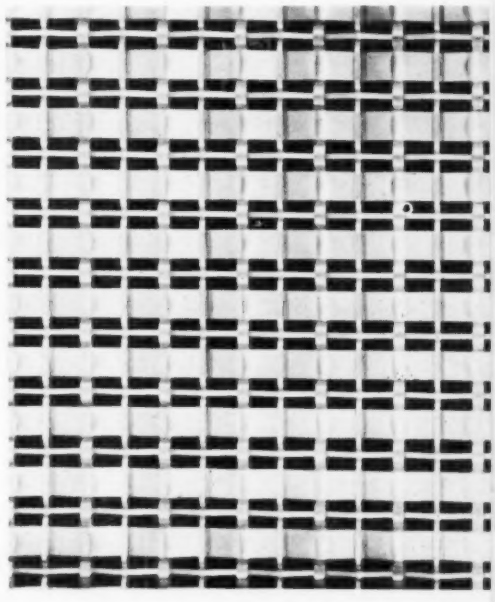
The grand prize winner in Magic Chef's recently concluded dealer contest which attracted 32,000 entries is shown here receiving his award, a Ford Thunderbird car, from A. M. Wyman (right, below), Magic Chef's director of advertising and sales promotion. The winner, Lawrence F. Kahl, operates a appliance store in Freeport, Ill. 25 prize winners names were drawn by singer James Melton (inset, right), with Albert W. Gruer, Jr., Magic Chef's gas range merchandising manager, witnessing the procedure.

. . . . . foto-news

ls one thousand words, this new *finish* foto-news
os and few words about people and products in the
roduct field . . . . . .

Kawneer Company president Lawrence J. Plym (middle) and Alan Weatherstone, founder of Weatherstone Windows, Ltd., Toronto, completed the transfer of the Canadian company to Kawneer ownership October 28. Irving R. Seely, Kawneer administrative vice president, (left), Donald D. Dunning, president of Kawneer, Canada, Ltd., (second from left) and Kawneer executive vice president Henry W. Zimmer (right) participated in the negotiation.

Carrier Corporation's new Self-Contained Weathermaker proves packaged air conditioning can contribute beauty as well as utility. The new Weathermaker employs water-cooled refrigeration and is being introduced in sizes of 2-, 3- and 5-horsepower. Circle in the center is the 22-carat gold-plated Aerodial control cluster.



→ *An intriguing weave of extruded aluminum bars and channels is shown in this close-up of the gold mesh wall design to be used in the new Atlanta, Ga. sales office of Aluminum Company of America. The gold mesh will be suspended several inches from a blue aluminum curtain wall.*

A new waffle baker introduced by the Toastmaster Products Division of McGray Electric Company boasts an exclusive supersensitive thermostatic control to insure the exact same baking heat at all times so that the homemaker can expect waffles of a consistent fluffiness, texture and moisture content.

→ *Most companies provide magazines for waiting visitors. Soreng Products Corp. goes further . . . they provide a washing machine, complete with hot and cold water. E. M. Soreng, chairman of the board, explains operation of solenoids, pressure switches and other electrical parts that help operate the Bendix Duomatic Dryer Combination to G. R. Calkins, Soreng V.P. and director of sales, and Terry Kennedy, Bendix merchandising mgr. for Crosley-Bendix Division of Avco.*

Years of EXPERIENCE

GEORGE SIROVY, SR.
President
Over 47 years' experience in the development and production of porcelain enamel frits.

H. C. BUCKINGHAM
Chairman of Board
Also President of Thor Corp. with which he has been associated for over 20 years.

ROGER FELLOWS
Vice Pres. and Mgr. Frit Div.
32 years in laboratory and development work and in the technical supervision of frit manufacture.

MANAGEMENT AND FINANCE
TECHNICAL AND PRODUCTION
SALES AND SERVICE

GEORGE SIROVY, JR.
Executive Vice Pres.
Over 17 years' experience in enamel plant operation and in frit sales and service.

HERMAN BERNICK
Secretary & Treasurer
Specialist in administration and management, is Secretary and Treasurer Thor Corp., was formerly with Whitney Associates.

FERD ROZENE
Sales & Service
30 years' experience in the operation of porcelain enameling plants, large and small, and on frit sales and service.

CENTURY VITREOUS ENAMEL COMPANY

AT YOUR SERVICE

CENTURY VITREOUS

The six Century Vit men shown here represent scores of years of experience in the manufacture of porcelain enamel frits and in the operation of porcelain enameling plants.

Top men in the industry on Finance, Management, Research and Development, Production, Sales and Service combine their talents to serve you at Century.

Combine this talent with modern production equipment and trained plant personnel, and you can see why Century frits are second to none for all types of porcelain enameled products.

You can get the best in frits — that have been plant tested — and save money too if you "buy from Century." Management likes these frits for their money-saving features, and plant men like them for their trouble-free workability.

If you aren't using Century frit now, start right NOW by arranging for a plant trial soon.

TIME & PLANT PROVED FRITS

Every Century enamel is given a complete "proving ground" test before it is sold to our customers. In our own enameling plant they are applied in production to a wide variety of fabricated metal parts before they are sold as "time-proved" frits.

6641-61 S. Narragansett Ave., Chicago 38, Ill.

FRIT from CENTURY FRIT MASTERS

MANUFACTURERS...

PORCELAIN ENAMEL

gives your products *greater sales appeal*

Put this label on all products that can qualify for its use. It identifies the Genuine Porcelain Enamel surfaces on appliances and other products, and calls attention to the high quality finish you use.

The user-advantages provided by Porcelain Enamel help make sales for manufacturers whose appliances are finished with this material. Its beauty, durability, ease of cleaning and permanence are practical advantages that appeal instantly to customers. Furthermore, these features can be dramatically demonstrated by retail salespeople. Specify Porcelain Enamel, the "Lifetime Finish," for your products and let its powerful sales-appeal work for you!

This message sponsored by the Frit Division of the

PORCELAIN ENAMEL INSTITUTE, INC.

Associations Building, 1145 Nineteenth St., N. W. Washington 6, D. C.

Do You have the P. E. I. Design Manual? If not, use this coupon:

PORCELAIN ENAMEL INSTITUTE, INC.
1145 Nineteenth St., N.W., Washington 6, D.C.
Please send a copy of the PORCELAIN ENAMEL DESIGN MANUAL to:

NAME_____

COMPANY_____

ADDRESS_____

The Porcelain Enamel Institute's new board of trustees poses for a picture. Standing, John C. Oliver, managing director of PEI; H. O. Smith, Mullins Mfg. Corp.; E. M. Hommel, The O. Hommel Co.; A. D. Shaver, The Bettinger Corp.; Burton Longwell, Republic Steel Corp.; H. M. Brenner, B. F. Drakenfeld & Co., Inc.; J. F. Corkill, Pacific Coast Borax Co.; W. H. Lowry, Vitreous Steel Products Co.; M. D. O' Leary, Chicago Vitreous Corp.; W. F. Wenning, Ceramic Color & Chemical Mfg. Co.; R. H. Gieser, Rheem Mfg. Co.; R. H. Coin, Ingram-Richardson, Inc.; J. J. Boehler, Heintz Mfg. Co. Seated are institute officers Hugh McE. Patton, Ingram-Richardson Mfg. Co., vice president; P. B. McBride, Porcelain Metals Corp. of Louisville, treasurer; Herbert Turk, Pemco Corp., vice president; G. A. Hutt, Ferro Corp., president; J. E. Bourland, Texlite, Inc., vice president, and J. W. Vicary, Ervite Corp., vice president.

Porcelain Enamel Institute 24th annual meeting

APPLIANCES, color, metals, credit and architecture were among the many varied subjects discussed at the Porcelain Enamel Institute's 24th Annual Meeting held October 26, 27 and 28 at The Greenbrier, White Sulphur Springs, West Virginia.

In the first business session, presided over by Glenn A. Hutt of Ferro Corp., the Institute's president, Laurence Wray, editor of *Electrical Merchandising*, was the featured speaker discussing "Today's Appliance Picture". The enamelers and their suppliers heard another speaker on a similar aspect when Marion Harper, president of McCann-Erickson, Inc., presented, "The Appliance Industry — A Forward Look". Closely tied in with coverage of the appliance picture was a talk by color consultant Howard Ketcham of Howard Ketcham, Inc. "Find out what your customers want before you start producing profitless and needless colors", Ketcham said.

Mr. Wray estimated the following sales for the year 1955 based on 8-month figures: 4,025,000 refrigerators; 1,025,000 freezers; 3,603,000 gas and electric ranges; 3,592,000 gas and electric water heaters; 4,390,000 washing machines; 1,515,000 dryers; 300,000 dishwashers; 8,000,000 television sets; and 12,000,000 radios.

Informative speakers in other sessions were: Arthur Gilbart, vice president, Equitable Life Assurance Society of the United States who spoke on "Tomorrow's Markets — The Financial Institution's Viewpoint"; R. M. Buddington, general sales manager, Inland Steel Company, who presented "The Steel Industry Looks Ahead with Porcelain Enamel"; and A. J. Doescher, manager, Management Service Division, Ernst and Ernst, who discussed "Confidential Development of Basic Industry Statistics".

In his address Arthur Gilbart stated, "Five basic elements make a market that directly serves the individual consumer: 1. Buyers, 2. Sellers with a supply of goods, 3. Distribution facilities, 4. Media exchange, i.e., money and credit, 5. Human needs and desires.

"A rising tide of population and the growing capacity of industry insure an abundance of buyers and a plentiful supply of goods in tomorrow's markets, and the continuing evolution in distribution methods will bring buyer and seller together on an efficient basis. Funds supplied by insurance companies, banks and other financial institutions have played an important part in supporting expenditures for new manufacturing plants and equipment and for new distribution facilities aggregating $230 billion during the past ten years. The demonstrated and successful use of credit to finance this outstanding industrial growth augurs well for the continued availability of adequate funds for tomorrow's production."

The insurance executive continued, "Today the use of credit by the individual is undergoing an important test as the result of a perceptible but unmeasurable shift in recent years from the financing of human needs to the financing of human desires. An obvious example of the latter is the use of installment credit to finance travel and vacations. Less obvious but more important is the purchase through credit of goods not really

Glenn A. Hutt, Ferro Corp., PEI president; James Vicary, Ervite Corp., chairman of the Architectural Div., and Robert K. Posey of Skidmore, Owings & Merrill check over a proof of the Architectural Div.'s new manual, "Porcelain Enamel in Architecture" soon to be released.

Robert W. Buddington, Inland Steel Co., discussed "The Steel I dustry Looks Ahead with Porcelain Enamel", and Arthur W. Gilb of the Equitable Life Assurance Society of the United States p sented, "Tomorrow's Markets —". H. H. Wineburgh of Texlite, I was this session's presiding officer.

needed to permit the enjoyment of a satisfactory standard of living. There is little doubt that the sustained high level of home building owes as much to the desire of the individual for convenience and comfort as to the need for adequate shelter. While the automobile long ago was transformed from a luxury to a necessity, the growing trend in the number of two-car families stems largely from desire. Food freezers, automatic dishwashers and air conditioners must certainly rank high on the list of products where *need* is a *secondary consideration.*"

Attention was devoted to the subject of architectural porcelain enamel in the final business session. In congratulating the enamelers on their progress Robert K. Posey of the architectural firm, Skidmore, Owings and Merrill said, "Your material is first rate for architectural use". He continued with particular reference to curtain wall type construction, "Today because of your long experience in porcelain enamel and inventiveness and engineering know-how applied to this new use, architects can point to many major projects whose success depends to a great degree upon porcelain enameled panels."

Words of caution were sounded by architect Posey when he said, "I should like to submit that your material is first rate for architectural use and to underscore my contention that marketing of less than the best can only retard general acceptance of metal panels. Misuse of porcelain enameled panels is equally destructive to its continued demand". — A suggestion, "that you limit panels to approximately 3′ x 5′ in size. Waviness or lack of flatness, if not carefully controlled will ultimately kill the material for architectural use."

J. W. Vicary of Ervite Corporation, chairman of the Institute's Architectural Division, gave an up-to-date report of this division's activities in his talk, "Architectural Porcelain Enamel — It's Challenge and Its Responsibilities".

The accomplishments and aims of the Institute's newest division, the Aluminum Division, were presented to the membership in a report prepared by C. P. Lohman, Pemco Corp. Mr. Lohman, chairman of this new group, pointed out many new products using porcelain enamel on aluminum, and he predicted an expanding market for the material.

Reports on projects, current business and plans for the future received attention in each of the Institute's individual meetings. Divisions holding meetings were the Sign, Architectural, Frit Manufacturers, General Enameling, Aluminum, Color Manufacturers and Steel Plumbing Fixtures Divisions.

Discussing a new sign manual are, left to right, W. N. Brinker, market development manager of PEI; H. McE. Patton, Ingram-Richarson Mfg. Co., the Sign Division's immediate past chairman; and D. D. Shaver, Bettinger Corp., newly elected division chairman. The new manual covers all types of porcelain enamel signs.

Howard Ketcham of Howard Ketcham, Inc., color consultants, Robe Smith of Temco, Inc. and Marion Harper of McCann-Erickso Ketcham spoke on "Color — The Vital Impact in Today's Sales" Smith was the presiding officer at a major session; Harper discuss "The Appliance Industry . . . A Forward Look".

Brief resumes of P. E. I. Forum papers *(Continued from November)*

from the 17th Annual Shop Practice Forum held at Ohio State University, Columbus, Ohio

Control of sub-sieve fine grinding

HARRY AFFLERBACH, Ingram-Richardson, Inc.

A CONTROL test for the determination of the relative fineness of finely ground enamels need not be one which indicates particle sizes or particle size distribution. One test which is reliably accurate, which will give reproducible results and which can be performed rapidly is the settling test.

The procedures for the test which may be "standardized" locally for convenience of operation is as follows: Measure 70 c.c. distilled water into a graduated cylinder, add 3 c.c. of sodium silicate solution prepared by diluting 2 c.c. of 40° Be. material with 3 c.c. of distilled water, and fill to the 100 c.c. mark with enamel slip having a specific gravity of 1.69 to 1.71. Add 1 c.c. of phenolphthalein solution as an aid in determining the level of the settled solids, stopper graduate and agitate thoroughly for 20-30 seconds by shaking and inverting. Place graduate on level location and allow to settle. Read and record volume of solids settled at two-minute intervals for a total of twelve minutes. In actual production use of the test, the total volume settled during some standard length of time is taken as the test's endpoint.

The rate of settling continuously decreases as the particles of frit become smaller with increased grinding.

Another test which has been used with varying degrees of success is the Hegman Grind Gage. The gage is a steel plate containing two parallel inclined depressions 0.005 inches deep at one end and zero inches at the other. Material to be tested is placed in the deep end of the depressions and a knife edge drawn over the surface toward the shallow end. When the surface of the resulting wedge of material is viewed at an oblique angle, coarse particles are seen breaking through the smooth surface along the depression at the point where the depth of the depression becomes less than the diameter of the particles. The point on the scale where this occurs is taken as the endpoint of the test.

Good correlation between the settling test and the Hegman Fineness Gage has been obtained. Poor reproducibility of results with the fineness gage may be encountered due to the inability of different operators to interpret results similarly. Even with rigid adherence to test procedures, reproducibility of results by the same or different operators is not as good as with the settling test. The fineness of grind test has the advantage of requiring less time for performance than the settling test and, as a result, has been used as a preliminary test to determine if a mill is approaching "range." The settling test may then be used as the umpire test to terminate grinding of a mill.

The Number 2 electrostatic spray process

W. L. SMART, Ransburg Electro-Coating Corporation

FOR the past five years, the Number 2 electrostatic spray process has been used by the finishing industry for applying coating materials to a wide variety of articles of manufacture.

A typical installation of the Number 2 process is composed of an atomizing device, a fluid delivery pump, a high voltage supply and a control panel. The coating material, metered by a positive displacement pump, is delivered to the inner surface of the rotating bell of the atomizing device. By virtue of centrifugal force, the liquid moves to the atomizing edge of the bell in a thin continuous film. Since the articles to be coated are electrically grounded through their conveyor and the atomizer is maintained at a high D.C. voltage (usually about 100 KV), a strong electrostatic field exists between the atomizing bell and ware. As the thin film of coating material leaves the bell edge, it is atomized under the influence of the electrostatic field into a finely divided spray. The tiny particles of fluid are electrically charged and the electrostatic field causes them to deposit upon the surfaces of the grounded articles.

A system of color control for appliance production

FRANK L. MICHAEL, General Electric Co.

THE use of colored finishes on appliances, wall cabinets and floor cabinets which are grouped together to form kitchen units has produced a critical problem of color control on the several parts. A good color match must exist between the component parts which may be produced in different finish materials. Some system of color control is required to achieve an acceptable color match.

The first step in the control of a color is the preparation of panels of the standard color. The color may be expressed in terms of a color system but a spectrophotometric curve of the standard color and the tri-stimulus values obtained from it can be used as a basis of identification and control. The color finish of these standard should not deteriorate or change on aging, thus making porcelain enamel an excellent finish to use for preparation of the standard color panels.

In production each mill of enamel is carefully color matched to the standard color by use of data from spectrophotometric curves. Good mill room practices are essential.

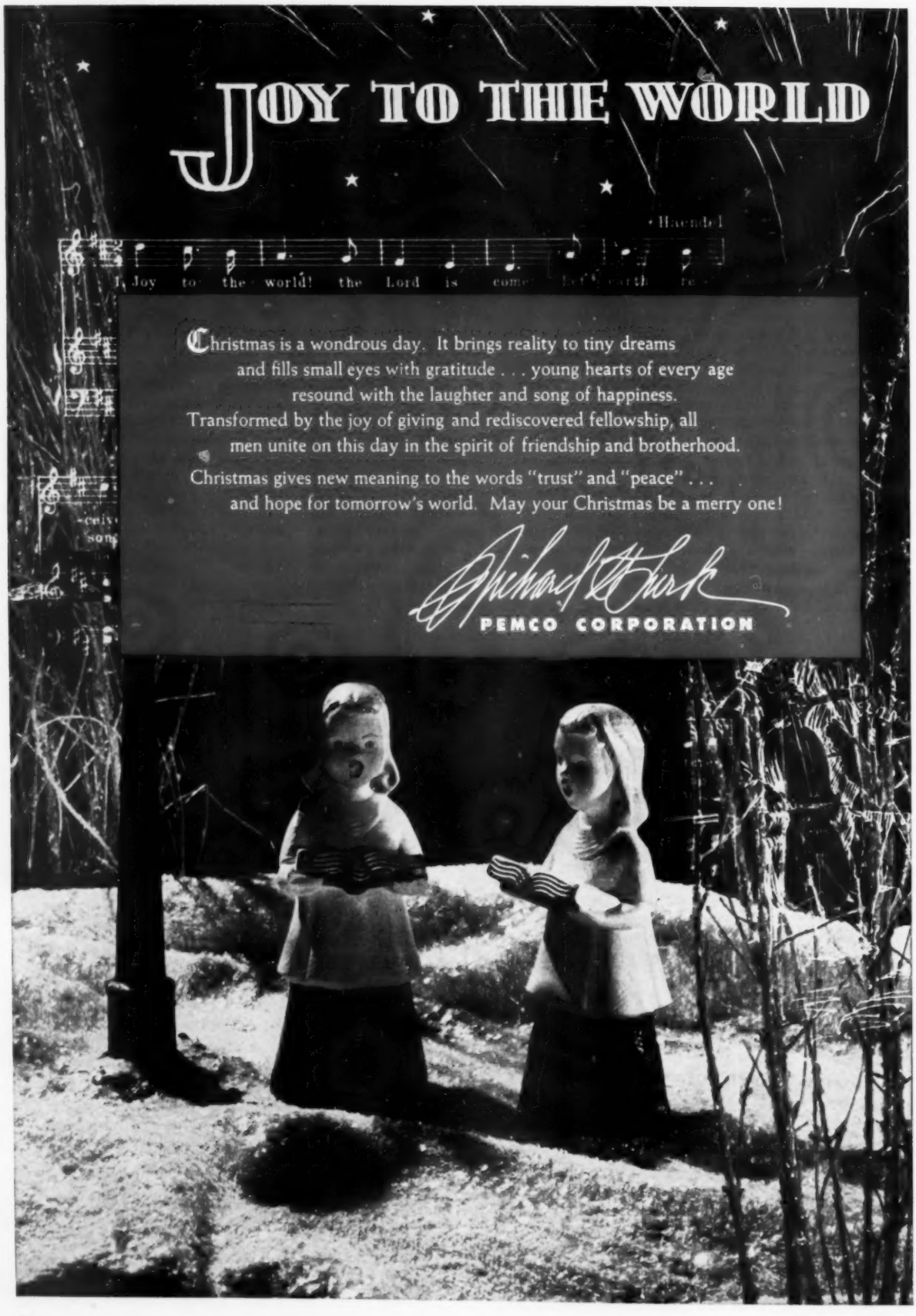
Good shop control is essential with special emphasis on the burning time and temperature cycle to obtain quality color products.

Enamel in storage tanks is checked for color on production parts prior to starting a scheduled production run.

The enamel at the spray booth for a scheduled day's production is checked for color on production parts just prior to starting operations to establish proper time-temperature burring cycle.

Visual inspection of finished parts is made in comparison with a standard color panel under serveral types of light combined with spot checking of color on finished parts by means

to Page 87 →


JOY TO THE WORLD
Handel
Joy to the world! the Lord is come
Christmas is a wondrous day. It brings reality to tiny dreams
and fills small eyes with gratitude . . . young hearts of every age
resound with the laughter and song of happiness.
Transformed by the joy of giving and rediscovered fellowship, all
men unite on this day in the spirit of friendship and brotherhood.
Christmas gives new meaning to the words "trust" and "peace" . . .
and hope for tomorrow's world. May your Christmas be a merry one!
PEMCO CORPORATION

CORY PURCHASES MITCHELL MFG.

Cory Corp., Chicago, has purchased Mitchell Mfg. Co., Chicago, announced J. W. Alsdorf, Cory president. Mitchell will continue to operate as usual but as a wholly-owned subsidiary of Cory. No personnel changes have been made, except that A. N. Pritzker, Cory chairman, will occupy a similar position for Mitchell, and Alsdorf will be president of the two firms. B. A. Mitchell, former Mitchell president, will serve Cory in an advisory capacity.

Mitchell manufactures room and packaged air conditioners, fluorescent lighting fixtures for industries, commercial establishments and institutions and a line of radios, phonographs and high-fidelity equipment.

TV & RADIO SALES UP

Production of television sets during the first eight months of 1955 was 27% higher than the same period last year, and radio production was nearly 43% higher, according to the Radio-Electronics-Television Manufacturers Association.

SEPTEMBER RANGE SHIPMENTS SHOW GAIN OVER 1954

Edward R. Martin, Gas Appliance Manufacturers Association, director of marketing and statistics, reported that during September 231,300 domestic gas ranges were shipped to distributors and dealers, compared to 203,900 shipped during September 1954, an increase of 13.4%.

This makes a total of 1,740,400 ranges shipped during the first nine months of the year, a 15.5% increase over the 1,506,400 shipped in the same period in 1954.

CROSLEY & BENDIX NAMES SCHNEBERGER ASST. TO PRES.

R. H. Schneberger, national service manager of Crosley radio and television, has been appointed special assistant to Chester G. Gifford, president of Crosley and Bendix Home Appliances Div., Avco Mfg. Corp., Cincinnati.

Schneberger joined Crosley in 1951. Before that he was with Coolerator Corp. for three years and Hotpoint Co. for 28 years.

FLORENCE STOVE SALES FIGURES

Florence Stove Co., Chicago, sales for the 40 weeks ended October 8, 1955, were up 33% over the same period last year, according to John P. Wright, chairman of the board. Sales were $26,197,864 compared to $19,629,940 last year.

For the twelve weeks ended October 8, sales were $9,275,933, an increase of 37% over the last year.

9TH AIR-CONDITIONING AND REFRIGERATION EXPOSITION

As this issue of *finish* reaches you the 9th Exposition of the Air-Conditioning and Refrigeration Industry is being held in Atlantic City, N. J., for what is expected to be its largest meeting to date. At the time this was written there were 250 exhibitors who had reserved space at the exposition. It is reported that this show is 1/3 larger than the one held in Cleveland in 1953.

Five groups holding meetings concurrently with the show are Refrigeration Service Engineers Society, Air Conditioning and Refrigeration Wholesalers, National Commercial Refrigeration Sales Association, American Society of Refrigeration Engineers and Refrigeration and Air-Conditioning Contractors Association.

SEPT. HOME LAUNDRY SALES BREAK PREVIOUS RECORDS

September home laundry appliance factory sales totalling 593,993 units, were the highest of any month in the history of the industry, Guenther Baumgart, executive director of the American Home Laundry Manufacturers' Association, has announced.

Cumulative sales for the first nine months of 1955 amounted to 4,117,459 units, 30% greater than for the corresponding 1954 period.

KELVINATOR FIGURES FOR YEAR ENDING SEPT. 30

Kelvinator factory sales for the fiscal year ending September 30 were 37% greater than the previous year,

Walter Jeffrey, vice president in charge of sales, announced.

Laundry equipment led all products with a 58% gain over 1954. Refrigerators which accounted for the largest unit volume were up 41%, and ranges up 39% for the year.

ADMIRAL NAMES BARRECA VP AND BOARD MEMBER

Vincent Barreca, president of Canadian Admiral Corp., has been elected to the newly-created post of vice president — operations of Admiral Corp., Chicago. John B. Huarisa, executive vice president, also announced Barreca's election to the board of directors.

Barreca, who joined the company in 1934, established Canadian Admiral Corp. in 1946.

TEMCO EARNINGS UP

Temco Aircraft Corp., Dallas, Texas, for the first nine months of 1955 registered net earnings of $2,350,707, president Robert McCulloch, has announced. This is 2.6% over the first nine months of 1954.

HENDERSON NAMED HEAD OF WESTINGHOUSE AIR CONDITIONING DIVISION

Bruce D. Henderson has been named operating vice president and division manager in charge of the air conditioning division of the Westinghouse Electric Corp., Pittsburgh, W. W. Sproul, Jr., vice president in charge of general industrial products group of divisions, announced.

John A. Gilbreath, who has been manager of the Staunton, Va., plant, is manager of the packaged products department of the division.

NEMA AUG. SALES FIGURES

The following sales figures have been announced by the National Electrical Manufacturers Association for the month of August: electric farm and home freezers, 56,051; electric storage water heaters, 53,046; electric household refrigerators, 291,376; and electric ranges, 72,304.

National Automatic Merchandising Association holds convention and exhibit

THE largest exhibit of new vending machines and vendible products in the 19-year history of the National Automatic merchandising Association was held November 6-9 at the Conrad Hilton Hotel in Chicago. Dozens of innovations in vending machines and huundreds of vendible products were displayed by 146 manufacturers. 6,000 representatives of the vending industry throughout the nation attended this annual convention.

A large increase in the sale of vending machines and products sold through them is again indicated this year. N.A.M.A. predicts that by the end of 1955 more than $1.7 billion worth of products and services will have been sold this year from at least 2,965,630 vending machines — an increase of more than 13% over 1954 figures.

New machines which made their debut at the convention included: hot food service machines, which serve "main dishes" such as chili, baked beans and spaghetti; refrigerated machines offering a selection of salads, such as cole slaw, cottage cheese, and potato salad; hot soup vendors; milk vending machines; pastry machines; and other innovations in service machines with new design motifs and improved color and illumination features.

Industrial plants will be among the immediate beneficiaries of the research and development in the food field. Attractive "full line" automatic machine-catering installations are said to offer many advantages over other types of plant feeding.

The industry is very optimistic about the future. One industry spokesman, Mr. John T. Pierson, president, The Vendo Company, said "The industry will double in the next five years."

To provide a fine example of why the industry is so optimistic Mr. Pierson told our editor that his company, which has 400,000 square feet of manufacturing area and 1,200 employees, is currently operating 16 hours per day. He went on to say that his company did 16½ million dollars worth of business in 1954 and that this would be increased to 20½ million dollars in 1955.

FIVE NEW NEMA MEMBERS

Five electrical manufacturers have joined the National Electrical Manufacturers Association, it was announced by A. F. Metz, president.

Their election raises the number of member companies to 577.

The new members are: Electrical Utilities Co., La Salle, Ill.; Fansteel Metallurgical Corp., North Chicago, Ill.; Lockley Machine Co., New Castle, Pa.; New England Laminates Co., Inc., Stamford, Conn.; and Resin Industries, Inc., Santa Barbara, Calif.

WHIRLPOOL-SEEGER RETOOLING TO MAKE 1956 HOME FREEZERS

Whirlpool-Seeger Corp., St. Joseph, Mich., is nearing completion of retooling preparatory to manufacture of a completely new line of home freezer units, it was announced by John W. Craig, vice president and director of merchandise development.

Scheduled for retail distribution in January, the 1956 line of home freezers will carry the RCA-Whirlpool brand name.

VACUUM CLEANER SALES UP

The Vacuum Cleaner Manufacturers' Association has announced that sales of household vacuum cleaners for the first eight months of 1955 totalled 2,081,297, compared with 1,701,800 in the same period of 1954, an increase of 22. 3%. September sales topped September, 1954, by 29.4%.

CARRIER TO ERECT OFFICE BLDG.

A modern office building will be constructed in Dallas, Texas, by Carrier Corp. to house district head-

to Page 78 →

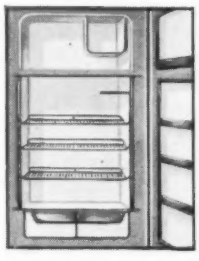
Five important ideas for your new refrigerators

THE rapidly growing use of aluminum in heavy appliances has made possible so many positive product advantages that new applications are continually being developed.

For example, the five aluminum refrigerator parts shown below are so important to *modern* refrigerators that their wide-spread use is assured.

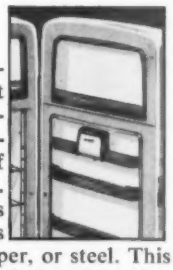
Manufacturers who specify these aluminum parts get a combination of selling features that no other material can provide—plus major production advantages.

Aluminum is extremely workable, economical to fabricate, and is easily treated for decorative or protective purposes.



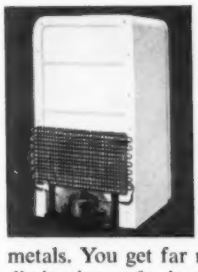
Refrigerator liners

made of Kaiser Aluminum need no expensive protective measures because of aluminum's high resistance to corrosion. And tough, durable Kaiser Aluminum can take the roughest treatment without chipping or scarring. Also, Kaiser Aluminum liners have high thermal conductivity—help maintain even temperatures throughout the box.



Storage-type doors

made of Kaiser Aluminum are both light and strong. As a result, you can eliminate the problem of overloaded hinges. Aluminum weighs about one-third as much as brass, copper, or steel. This makes possible new designs featuring even *more* door storage, well under hinge weight limits.

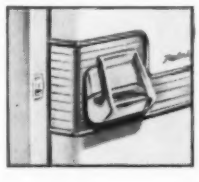


Condensors

made of Kaiser Aluminum are the logical choice because pound for pound, aluminum is the most efficient heat conductor of the common metals. You get far more efficient heat dissipation at far less cost.

Hydrator and Meat-keeper pans

made of Kaiser Aluminum provide new beauty because aluminum may be anodized in a variety of colors to harmonize with exterior colors. Also, aluminum's lightness makes handling easy. Aluminum imparts no taste or odor to foods, and is simple to keep clean.



Door handles, hinges, hardware and insignia

made of die-cast Kaiser Aluminum also can soon be anodized in color—as are stampings now. Or both can be used untreated to take advantage of aluminum's natural beauty. Either way, aluminum gives you long-lasting beauty under the hardest wear. It helps you further reduce weight on doors. And it's economical.

• • • •

INVESTIGATE these important ideas for your new refrigerator designs without delay and benefit from aluminum's unique combination of advantages.

These include: light weight with strength, thermal conductivity, electrical conductivity, heat and light reflectivity, corrosion resistance, handsome appearance, non-toxicity, ease of fabrication, economy.

An experienced Kaiser Aluminum engineer will be glad to work with you immediately, at your request.

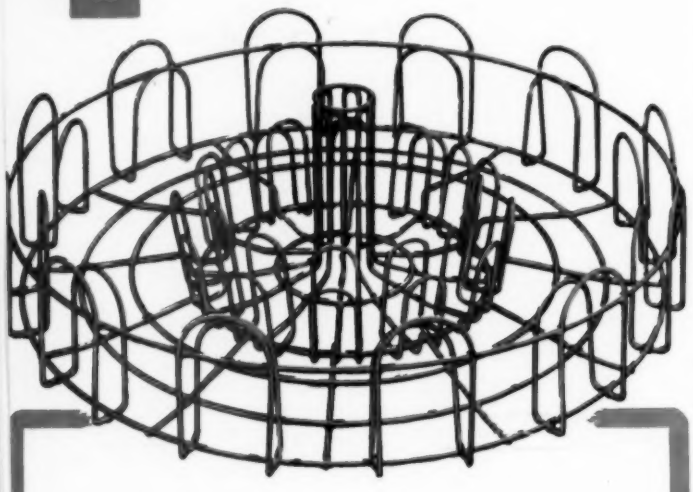
Contact any Kaiser Aluminum sales office listed in your phone directory.

Kaiser Aluminum & Chemical Sales, Inc. *General Sales Office,* Palmolive Bldg., Chicago 11, Illinois; *Executive Office,* Kaiser Bldg., Oakland 12, California.

Kaiser Aluminum

setting the pace—in growth, quality and service

WHAT COMPRISES A QUALITY PRODUCT?



Poly-vinyl coated dish-washer rack fabricated for one of America's outstanding manufacturers of major appliances.

A quality product is comprised of many attributable factors. Raw materials, well selected, provide the basic ingredients. But, raw materials must be combined with other qualities to insure the best. Here is where craftsmanship and engineering skill develop raw materials to their ultimate in quality. In this stage true quality of a product is born.

Craftsmanship and engineering skill have been basic since Peerless' founding in 1910. Peerless rests its reputation on the quality of its products. . . . This is the reason for the demand of Peerless products by the great names in American industry.

If your needs call for wire formed products, Peerless can do it better, faster at less cost. Send us your prints for quotations by return mail.

Peerless WIRE GOODS COMPANY, INC.
2702 FERRY STREET
LAFAYETTE, INDIANA

THE VONNEGUT BRUSH-BACKED POLISHING HEAD

Its versatility makes it a "must" in every shop!

The Vonnegut Brush-Backed Polishing Head, in a choice of diameters and abrasive widths, is versatile in the OPERATIONS for which it can be used, in the MATERIALS and the SHAPE AND FORM OF SURFACES to which it can be applied. It will sand, polish, debur, flat or contoured surfaces—on wood, metals and other materials. Write for Bulletin No. 102 for full description.

Makers of the famous MARSCHKE grinders and buffers.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-A WINTHROP AVE., INDIANAPOLIS 5, INDIANA

ALKALI gray ground coat

FOR THE HOME LAUNDRY INDUSTRY

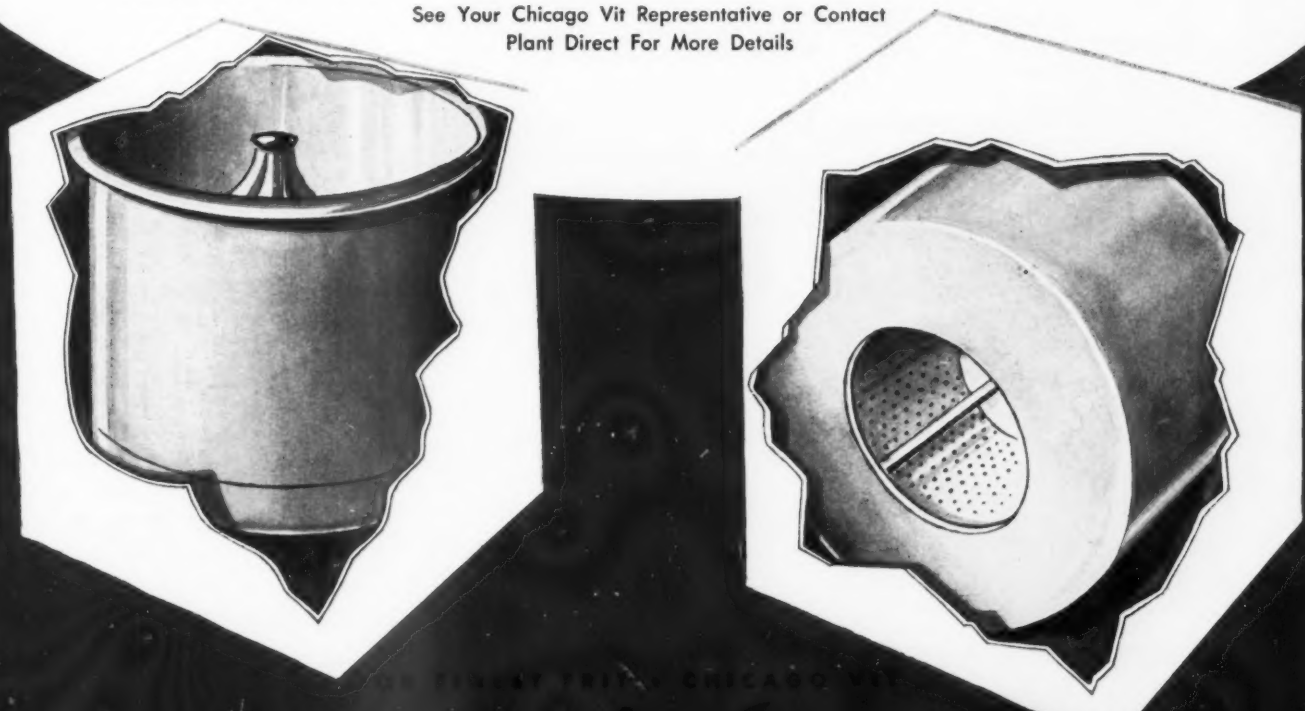
is here...NOW!

Alkali gray ground coat is another typical example of the pace-setting developments that spring from Chicago Vit research. With the advent of detergents for home laundry use a few years ago certain new requirements and problems in coatings arose. These were met and solved by Chicago Vit. Then along came a need for a gray ground coat with high alkali resistance. Chicago Vit research solved this problem too, and today alkali ground coat is not just a promise for the future but a reality that's here . . . NOW! The point is that whatever your end use problem may be you can bring it to Chicago Vit with confidence, knowing you'll get the right answer quickly.

IF YOU NEED ALKALI RESISTANCE WE'VE GOT THE FRITS YOU NEED!

• GROUND COATS • COVER COATS

See Your Chicago Vit Representative or Contact
Plant Direct For More Details



FOR FINEST FRITS, CHICAGO VIT

Chicago Vitreous CORPORATION

1425 South 51th Court • Cicero 50, Illinois

Press operator Hannah Jones, who has worked presses of different makes for several years, prefers this 100-ton Warco to anything she has operated. Here she shows Personnel Director Myron Timms one of the reasons why—the increased production of tractor muffler heads.

"Since We've Tried WARCO Presses We've Bought Nothing Else" - - Says Leading Automotive Muffler Manufacturer

Company That Operates 130 Presses Has Purchased Only Warco Equipment Since 1951

The MacKenzie Muffler Co., Inc., is recognized as one of the nation's leading designers and builders of mufflers for the automotive industry. In the manufacture of their product the blanking and forming press plays an important part. In fact, this concern has more than 100 presses in daily use. In 1951 they decided to try their first Warco Press. They watched it closely, recording production and maintenance figures. "It sold itself to us," say company officials, "so well that we have purchased nothing but Warcos since."

Warco quality is like that. Once you compare you'll discover that Warco Presses outperform them all. It will pay to let your Warco representative know the next time you're in the market for press equipment.

Federal WELDERS ®

Warco PRESSES ®

THE FEDERAL MACHINE AND WELDER CO.
WARREN, OHIO

News

→ *from Page 74*

quarters for its machinery and systems and unitary equipment divisions, it was announced by Cloud Wampler, Carrier president.

The new single-level structure incorporating some 11,000 square feet of office space will also provide 9,000 square feet of area for light assembly work and storage.

WESTINGHOUSE NAMES CAMILLE BEAUCHAMP HEAD OF HOME ECONOMICS INSTITUTE

The appointment of Miss Camille Beauchamp as manager of the West-

inghouse Home Economics Institute succeeding Mrs. Julia Kiene who retired recently, was announced by John H. Ashbaugh, vice president and general manager of the Westinghouse Electric Appliance Division, Mansfield, Ohio.

Prior to joining Westinghouse in 1937 as a regional home economist Miss Beauchamp taught home economics at the high school in Meridian, Miss.

SERVEL PROMOTES AUSTIN

Hardy H. Austin, formerly assistant superintendent of production, has been promoted to superintendent of production for Servel's commercial refrigeration division, announced John R. Morrill, vice president and general manager of the division.

ANNOUNCING "THE RHEEM STORY"

The January, 1956 issue of *finish*, the Magazine of Appliance and Metal Products Manufacturing, will contain a Special Section of approximately 60 pages devoted to the Rheem Manufacturing Company.

In part, here is what H. W. Wright, Jr., director of public relations, Rheem Manufacturing Company, had to say regarding the forthcoming Special Section: "Profound interest in your plan to publish a special section on Rheem Manufacturing Company as an important part of your January, 1956, issue has been expressed on all levels of the four operating divisions of this organization.

"Present planning indicates that we will use thousands of copies of the special section for Rheem wholesalers, dealers and other important elements of interest in the Company's public relations program.

"You may be assured of our fullest cooperation. In addition, other departments of the Company and members of the Rheem management team will be enlisted for a truly cooperative effort as may be required for the successful production of this valuable supplement to your magazine."

Perhaps you would be interested in a few vital statistics regarding the Rheem Manufacturing Company:

1. Rheem has 14 domestic plants and 17 affiliates abroad.
2. Rheem capital expenditures during 1954 totaled $5,126,142.
3. Rheem has approximately 8,500 employees who received $48,281,472 in wages and salaries during 1954.
4. Rheem had net sales in 1954 of $163,623,302.
5. Rheem produces the following products:
   - water heaters
   - water softeners
   - central heating furnaces
   - floor and wall furnaces
   - air conditioners
   - gas ranges
   - clothes dryers
   - boilers and tanks
   - underground storage tanks
   - automotive springs and bumpers
   - steel shipping containers
   - aircraft components and
   - other defense products
6. Rheem is the world's largest producer of 55-gallon steel drums.
7. A single Rheem plant (New Orleans) has produced as many as 18,053 pails in a single day's production.
8. Rheem is the world's largest user of sheet steel, excepting only the automotive industry.

finish editors are working with key personnel at Rheem, from president to the shipping foreman, and from South Gate, California, to Sparrows Point, Maryland, to ferret out the details of equipment and plant procedure which will be of greatest interest to our readers.

GAMA ELECTS NEW MEMBER

The Eroc Mfg. Co., Inc., Pomona, Calif., has been elected a member of the Gas Appliance Manufacturers Association, bringing the total membership to 589, according to Harold Massey, managing director.

CARRIER PRESIDENT WINS METAL TRADES AWARD

Cloud Wampler, chairman and president of Carrier Corp., Syracuse, N.Y., has been named as the recipient of the sixth annual Industrial Relations Achievement Award of the National Metal Trades Association, it was announced by Earle S. Day, association president.

Wampler received the award at the National Metal Trades Association's biennial convention held November 14-16 in Boston.

PUMP MFRS. ELECT OFFICERS

At the 23rd annual meeting of the National Association of Domestic and Farm Pump Manufactures, October 6 and 7 in Chicago, the following officers were elected: F. E. Myers, II, vice president, The F. E. Myers & Bro. Co., Ashland, Ohio, president; D. L. McDonald, president, A. Y. McDonald Mfg. Co., Dubuque, Iowa, vice president and chairman of the executive board of directors; John P. Curtin, vice president, Geo. D. Roper Corp., Rockford, Ill., treasurer; H. S. Lauterbach, president, Sta-Rite Products, Inc., Delavan, Wis., and Louis Wozar, The Dayton Pump & Mfg. Co., Dayton, Ohio, directors; and John Hosford, executive secretary.

AWS HONORS LEADERS IN WELDING FIELD

Outstanding achievements by leaders in the field of welding were recognized with the presentation of awards at the Honors Session at the American Welding Society's National Fall Meeting in Philadelphia, October 17.

John J. Chyle, director of welding research, A. O. Smith Corp., was presented the Samuel Wyle Miller Medal for contributing conspicuously to the advancement of welding.

NEW BUILDING RESEARCH INSTITUTE MEMBERS

The Inland Steel Products Co., Milwaukee, Wis., manufacturers of sheet metal building products, and The Erie Enameling Co., Erie, Pa., manufacturer of architectural porcelain enamel, have been accepted for membership in the Building Research Institute, it was announced by William H. Scheick, executive director.

MIDWEST ENAMELERS CLUB NAMES 1955-1956 OFFICERS

It was announced recently that the following have been elected officers of the Midwest Enamelers Club for 1955-1956: A. J. Holloway, president; J. S. McLaughlin, vice president; S. N. Smith, secretary-treasurer; and James Tustin, assistant secretary-treasurer.

AMA MOVES HEADQUARTERS

The American Management Association has moved its administrative headquarters from 330 West 42nd St., in New York to the Sheraton Astor Hotel at Times Square, 1515 Broadway.

New Industrial Literature

131. 88 page book on cold-roll forming

New The book is designed primarily as a textbook on the function, scope and economies of cold-roll forming. It presents an illustrated story of the equipment for and process of cold-roll forming and end uses of its products, also auxiliary equipment for curving, coiling, ring-forming, notching, perforating, welding, embossing, automatic cut-off and other operations frequently incorporated in cold-forming production lines. The subject index includes: function, scope and economics; roll forming materials and sizes; operating skill required; cost of roll forming; surface finish; fabrication and welding; strength-weight ratio; the forming machines; special operations; tooling for cold roll forming and other subject material.

132. Wood, machine & tapping screw technical chart

New A new two-color technical chart on wood, machine and tapping screws has just been released. Handy for almost anyone concerned with fasteners, this chart features pilot hole and shank clearance hole boring recommendations as well as "How to Measure" and determine sizes in length and diameter for wood screws. Hole size recommendations and thread dimensions for tapping screws are shown as are thread dimensions for machine screws and "stove bolt equivalents to machine screw sizes." Illustrated are standard and special head styles.

133. Booklet on finishing equipment

New Catalog No. A-656 describes and illustrates complete lines of metal cleaning and pickling equipment, metal cleaning and rust proofing equipment, hydro-filter spray booths and flow and dip coaters, filtered air supply systems, drying and baking ovens, core baking ovens and complete finishing systems.

134. Industrial applications of molybdenum chemicals

New A review of industrial applications of molybdenum chemicals has been published. Comprising seven different papers, this survey details molybdenum's wide use in diverse chemical fields and points to new industrial applications. Papers give the history, use and function of molybdenum and its compounds in catalysts, inorganic pigments, organic pigments, metal coatings and alloy for the chemical process industries.

135. New film on making ceramic coating materials

New A new color and sound motion picture entitled, "Everything under Control", has been released. The film shows how various ceramic coating materials are made and how they help sell appliances, and other products.

The feature-length motion picture is available free of charge to companies using porcelain enamel finishes, glaze finishes and other ceramic coatings. It tells, so that the layman can understand, how frits for glazes porcelain enamel and other ceramic materials are made and gives information on the advantages of such finishes. In addition to showing manufacturing control steps, the film has a scene telling salesmen how they can demonstrate the selling points of porcelain enamel finish on appliances.

The film is also available for showing to college classes and at sectional meetings within the ceramic industry. It is requested that three alternate dates be given for those interested in showing this film.

136. Bulletin on 17-7 PH wire and strip

New Bulletin T-1 describes in detail the mechanical properties and spring characteristics of the precipitation hardening stainless steel, type 17-7PH. The high-strength, corrosion and heat resistant metal is available in wire, rod and strip form and is said to be an excellent material for all types of springs.

137. Materials handling equipment

New This illustrated bulletin describes several conveyors for industrial use. There are lightweight conveyors to handle bulk materials, bags and boxes. A table-top model is for use in sorting, assembly, inspection or any operation requiring horizontal movement. There is also a floor-to-floor conveyor.

138. Folder on irradiant grid

New A folder on irradiant grid, a flameless gas burner, has been released. Its advantages are listed, and an explanation of what it is. Some applications include paint drying, mould drying, metal processing and heat treating.

139. Finishing equipment

New A new illustrated bulletin describes water wash spray booths, radiant type continuous ovens, vertical type ovens, drawer type ovens, ageing, annealing and burn-off furnaces, parts dryers, parts washers, bonderite systems, dust collectors and dipping and flowcoat equipment, etc.

140. Bulletin on belt unit for grinding and polishing

New Bulletin No. 104 describes and illustrates a belt unit for grinding and polishing. Uses for this unit are shown, and it is stated that machines can be designed and built to solve a particular problem.

141. Brush-backed polishing heads

New A two-color bulletin illustrates and describes a brush-backed polishing head for sanding, polishing, deburring and other finishing operations — for flat, curved, formed and irregularly shaped surfaces — for machined, pressed, stamped, fabricated and moulded parts. This head can be used on floor machines, suspended swing machines and power hand tools. It is said to be effective on steels, non ferrous metals, ceramics, coated finishes, etc. It comes in a choice of diameters and abrasive widths.

142. Frames for built-in sinks and ranges

New A catalog has been issued which features a line of frames for built-in sinks and ranges. Made of stainless steel, these frames are said to be self-aligning, watertight and easy to install.

143. Build-it-yourself infrared oven

New Constructing your own infrared oven for heating, baking or drying applications is said to be a low-cost, uncomplicated process using engineered radiant oven components as described in an illustrated folder. The folder describes two kinds of infrared sections — those using reflector-type bulbs and those using clear infrared lamps. The literature suggests and illustrates a variety of installation combinations which the pre-fabricated infrared sections make possible for the user.

144. New chlorinator catalog

New A chlorinator for purifying water supplies and treating sewage and industrial wastes is illustrated and described in a new catalog. A multi-colored flow diagram shows how chlorine gas and water are kept separate until they reach the ejector system. It is said that this feature, together with the use of completely corrosion-resistant materials throughout the chlorinator, prevents corrosion of the equipment and makes it maintenance free. Additional features include provision for quick change of chlorinator capacity, positive acting safety devices, simplicity of operation, high accuracy and ease of installation.

145. Catalog on inclinable presses

New A complete line of inclinable presses from 10 to 200 tons, and in both standard and enclosed design, is described in a new 32-page catalog. The catalog describes special features and attachments available and lists complete information on a line of clutches, automatic feeds and die cushions.

146. Manual on reinforced plastic

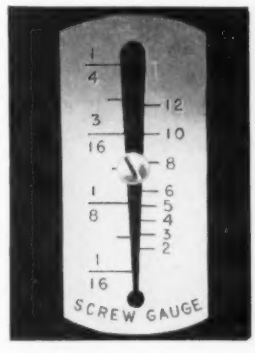
New A new 20-page reference manual describing the advantages, applications and procedures for using reinforced plastic is available. The manual contains 62 illustrations showing possible applications for the product in various industrial fields, plus such procedures as machining and handling, molding, sanding and grinding, etc. It features complete pricing information and detailed charts describing the material's mechanical, electrical, chemical resistance and thermal properties. Detailed instructions are also given for molding and handling the material.

147. Rubber engineering rubber

New A new 12-page brochure on molded and extruded parts of natural and synthetic rubber includes engineering data, a key to rubber and synthetic rubber compounds for all applications and relative properties of natural and synthetic rubbers.

L-10. Standard screw gauge

New The illustration shows a new combination standard screw gauge and round stock calibrator. This is offered free to production heads in metal working industries. This gauge will calibrate



all sizes of both machine and wood screws from #0 through #14. It also has a calibrated scale by 32nds for calibrating all kinds and makes of round stock. Requests for this gauge should be made on company letterhead.

FINISH
York Street at Park Avenue
Elmhurst, Illinois

Please forward to me at once information on the new supplies and equipment and new industrial literature as enumerated below:

No._____ **No.**_____ **No.**_____ **No.**_____

No._____ **No.**_____ **No.**_____ **No.**_____

Name _____ **Title** _____

Company _____

Company Address _____

City _____ **Zone**____ **State** _____

New Supplies and Equipment

L-11. Appliance switches

New A new series of switches designed to meet the requirements of all types of domestic appliances, such as washing machines, driers, etc. has been developed. They are small in size and high in electrical capacity. Overtravel stops on their actuators permit repeated full overtravel without damage to the switch, resulting in longer life. They are available in two actuator designs and with either single or double throw contact arrangements.

L-12. Cowl fastener

New Designed for quick, efficient assembly of access doors, service panels and other applications where easy accessibility is required is a new, flush-mounted cowl fastener. It is snapped over a panel edge where a second panel is positioned and a cowl pin inserted, twisted and locked. Builtin "float" is provided to compensate for any normal manufacturing misalignment, and live spring tension holds the panels together. Eliminating the need for welding equipment, it is claimed that this one-piece, self-retaining fastener affords users tremendous savings in both time and material.

L-13. Extendable crate clamp

New A hydraulically controlled extendable crate clamp that allows for speedy and efficient handling of crated appliances in warehouses and loading docks is designed to eliminate pallets. The device permits the unit to reach in and grab crated appliances from the second tier in a boxcar or warehouse. A side shift is said to permit exact placement of crates next to wall or to the bulkhead in a freight car.

More Information

For more information on new supplies, equipment and literature reviewed here, fill out the order form (Page 81) or write to us on your company stationery.

L-14. Water heater thermostat

New A new water heater thermostat designed for extremely accurate temperature control is available. Accelerated life tests have shown that it can maintain water temperature to within 30°F. of original calibration even after 20 years of actual service life. The bi-metal assembly is on the outside of the thermostat back plate. Contacts and other current carrying parts are protected within a heavy-duty aluminum and molded phenolic case. The case measures 2⅜ x 2⅞ x 1⅜". The thermostat is also suited for use in dishwashers, steam tables, laundry equipment, etc.

L-15. Panel control systems for automatic burners

New New panel control systems offer burner protection and automatic operation for commercial-industrial oil, gas and combination oil and gas burners. Flame failure safeguard, programming control, short-circuit protection, motor starters, fuel selector switches, signals and alarms, are combined in a single, integrated panel unit, pre-wired. The systems automatically safeguard every stage of burner operations.

L-16. Aluminum paint rollers

New Paint rollers of aluminum designed for plant maintenance are light-weight. They have bigger circumference to paint plant fences, machinery and safety areas with less arm fatigue and fewer r.p.m's.

L-17. Curing agent

New A new curing agent for use with Epon resins is available in experimental quantities. A low viscosity, high boiling liquid, the curing agent is expected to find its principal use in room temperature contact pressure laminating. In such applications its low viscosity is said to result in better wetting out of the glass cloth and somewhat stronger laminates than can be obtained with other room temperature agents.

SUPPLIER NEWS

SEPT. INDUSTRIAL FURNACE SALES UP 330%

Carl L. Ipsen, executive vice president of Industrial Heating Equipment Association, Inc., reported orders received for industrial furnaces for September totaled $8,350,712. This is 330% of last year's business when the comparable figure was $2,534,-335.

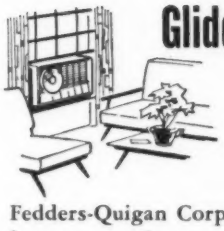
In the first nine months of 1955 orders totaled $61,355,470, up 188% over 1954.

TUTTLE & KIFT APPOINTS BURKE AND GIFT

Tuttle & Kift, Inc., Chicago, has announced the appointment of Harold Burke as manufacturer's representative for the eastern half of Wisconsin and northern Illinois. L. Wayne Gift has been named manufacturer's representative for Indiana and central Kentucky.

DOW CORNING WINS 1955 CHEMICAL ENG. AWARD

Dow Corning Corp., Midland, Mich., has been named winner of the 1955 Award for Chemical Engineering Achievement.



Glidden NUBELITE* product finishes

...for maximum resistance to corrosion, humidity and weather!

Fedders-Quigan Corporation, the world's largest manufacturer of room air conditioners, knows that its units must perform satisfactorily under varied, demanding conditions. To insure complete protection and beautiful, permanent color, Fedders-Quigan units are finished with Glidden NUBELITE primers and colored baking enamels.

These versatile product finishes, developed in Glidden Laboratories following the recommendations of Technical Service, are custom-formulated to provide remarkable resistance qualities, maximum adhesion and superior film flexibility.

Glidden Laboratories and Technical Service representatives are ready to assist in the development of a finish coating to meet your product service requirements and adaptable to present finishing facilities. Naturally, this and other Glidden services like Color Consultation, are available without cost or obligation.

*A Glidden Trade-Mark

QUALITY Glidden PRODUCTS

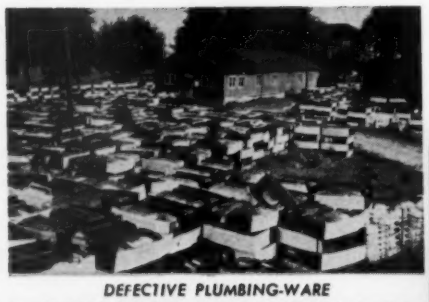
NUBIAN

VAPON

INDUSTRIAL FINISHES DIVISION

11005 Madison Avenue • Cleveland 2, Ohio

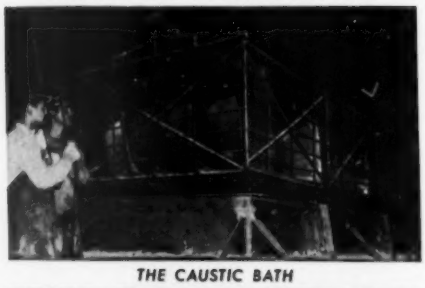
SALES OFFICES AND FACTORIES: San Francisco, Los Angeles, Chicago (Nubian Division—1855 North Leclaire Avenue), Minneapolis, St. Louis, New Orleans, Cleveland, Atlanta, Reading. Canada: Toronto and Montreal.



DEFECTIVE PLUMBING-WARE

DEFECTIVE WASHERS AND RANGE TOPS

D-ENAMELING SAVES UP TO 50% OF ORIGINAL PART COST



THE CAUSTIC BATH

THE WASH-OFF

SANDBLASTING

Over the past four years, D-Enameling has more than proved its dollars and cents value to manufacturers of ranges, bathtubs, sinks, refrigerator liners and washing machine tubs. Before D-Enameling, these manufacturers had to scrap defective parts. All the material and labor that went into them was a complete loss. Now, for a small cost, these same manufacturers are able to transform defective parts into first line salable, profit-building products. To cost-conscious management it is obviously smart business to spend a few dollars to save many more. One stove manufacturer, for example, through D-Enameling has been able to save as much as 50% of the original cost of range tops. If you're interested in cutting costs, it will pay you to find out about D-Enameling now. You'll be agreeably surprised how much the simple economics of D-Enameling can benefit you.

May we discuss this soon?

THESE INDUSTRY LEADERS KNOW FROM EXPERIENCE THAT D-ENAMELING TRANSFORMS SCRAP LOSS INTO PROFIT DOLLARS

ARROW SIGN CO. • BRIGGS MANUFACTURING COMPANY • CAPITAL AIRLINES • CHALLENGE STAMPING & PORCELAIN CO. • CLEVELAND-TENNESSEE ENAMEL COMPANY • CONLON-MOORE CORPORATION • CRIBBEN AND SEXTON COMPANY • CROWN STOVE WORKS • DWYER PRODUCTS CORPORATION • ESTATE HEATROLA DIVISION • FLORENCE STOVE COMPANY, Kankakee • GIBSON REFRIGERATOR COMPANY • GLOBE AMERICAN CORPORATION • GRAY & DUDLEY CO. • ICE COOLING APPLIANCE CORPORATION • LAWNDALE ENAMELING CO. • A. J. LINDEMANN & HOVERSON COMPANY • MAGIC CHEF INC. • MALLEABLE IRON RANGE COMPANY • MAYTAG CO. • MURRAY CORP., Scranton • NORGE DIVISION, Effingham • NORGE DIVISION, Muskegon Heights • PRENTISS WABERS PRODUCTS CO. • GEO. D. ROPER CORPORATION • RHEEM MANUFACTURING CO. • SAMUEL STAMPING & ENAMELING CO. • A. O. SMITH CO. • THE ENAMEL PRODUCTS COMPANY • TYLER FIXTURE CORPORATION, Waxahachie • WHIRLPOOL CORPORATION, CLYDE DIVISION

New Process *D-Enameling* Corp.

Highland and New Haven Avenues • Aurora, Illinois

NEWS ABOUT SUPPLIERS

ALLIED PORCENELL NAMES MADILL SALES MANAGER

George J. Madill has been appointed sales manager of Allied Porcenell, Inc., Waukegan, Ill., it was announced recently. Prior to his appointment Madill had been in charge of manufacturing for all plants of Universal Major Electric Appliances, Inc.

Howard C. Wolfe, formerly assistant to the president of Mullins Mfg. Corp., Sales, Ohio, has been named representative in Ohio and Indiana.

KAWNEER PROMOTIONS

Promotion of five men of Kawneer Co.'s engineering and production staff has been announced by Robert B. Diehl, works manager of the Niles and Lexington architectural products plants.

Charles R. Sigler was appointed manager of engineering. B. W. Larsen is manager of production engineering. Charles L. Grosdeck has been appointed manager of production. James F. Ryan was named plant manager. John M. Edwards was appointed manager of procurement.

DETROIT HARVESTER BUYS PETERS-DALTON

Purchase of the Peters-Dalton Co., Detroit, producers of spray booths, washers and ovens for the metals industries, by the Detroit Harvester Co. was announced October 1 by J. Thomas Smith, Harvester president.

Retaining its name, operations and personnel intact, the firm, with a $10,000,000 annual business, becomes a wholly-owned Detroit Harvester subsidiary.

The acquisition was reported to be part of the long-range expansion and diversification program of Detroit Harvester, large producer of automotive parts and equipment, power lawn mowers and farm mowers.

GEUDER, PAESCHKE & FREY MANUFACTURING EXECUTIVES

The following appointments have been announced by Edwin F. Gordon, president, Geuder, Paeschke & Frey Co., Milwaukee, Wis.: Harold E. Whiteley, formerly works manager, Bethlehem Steel Co., Chicago, manufacturing manager; Lester C. McKay, formerly factory manager, Wausau Mfg. Div., Borg-Warner Corp., master mechanic; Bonner Hoffmann, formerly budget and procedures manager, Zenith Radio Corp., Chicago, manufacturing controller; Elliot H. Thomas, formerly with Booz, Allen & Hamilton, Chicago, Lebanon, Ind., plant manager; and N. Martin Steffens, with the company for 38 years, director of materials.

THEOBALD HEADS PUBLIC RELATIONS FOR JERVIS B. WEBB

The Jervis B. Webb Co., Detroit, has announced the appointment of Carl J. Theobald as director of public relations. He was formerly general sales manager for the Skuttle Mfg. Co.

C. THEOBALD

W. R. SEELEY

SEELEY IS TUTTLE ELECTRIC VP & DIRECTOR OF SALES

Appointment of W. R. "Doc" Seeley as vice president and director of sales has been announced by D. V. Tuttle, president, Tuttle Electric Products, Inc., Kirkland, Ill., formerly Ferro Electric Products, Inc.

Seeley was formerly asistant to the works manager and chief inspector at Ice Cooling Appliance Corp., Morrison, Ill., and has spent the past six years with Ferro Electric Products, Inc., three years as manager of quality control, one years as sales engineer and most recently as sales manager.

WEAN EQUIPMENT APPOINTMENTS

The following personnel appointments have been made at Wean Equipment Corp., Cleveland, announced R. J. Wean, Jr., president.

John W. Rogers, in addition to his duties as sales manager, has been appointed director of sales and engineering. Albert J. Sarka has been named chief development engineer. Kenneth R. Keska has been appointed chief engineer. Donald H. Turk has been named chief design engineer, and William P. Donald has been named assistant chief engineer, design.

G. J. MADILL

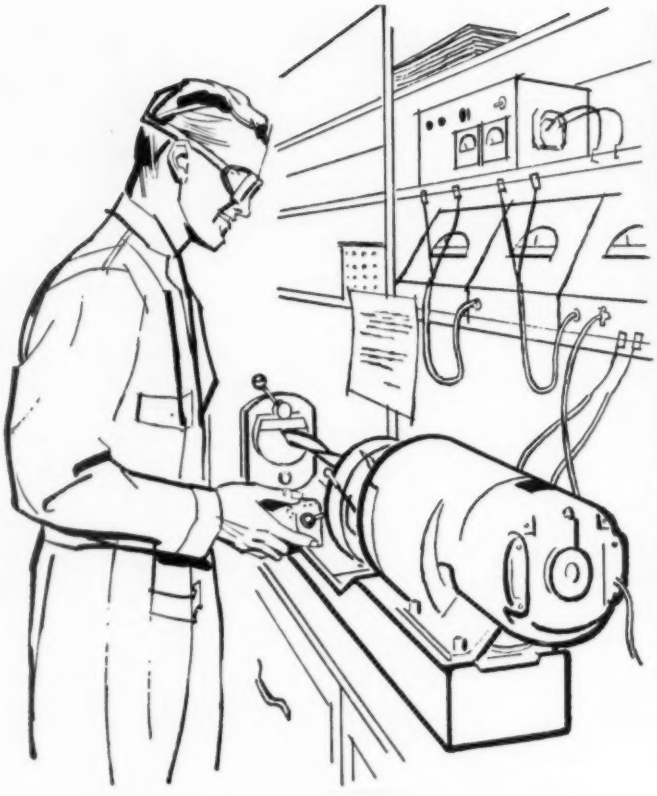
B. HOFFMANN

N. M. STEFFENS

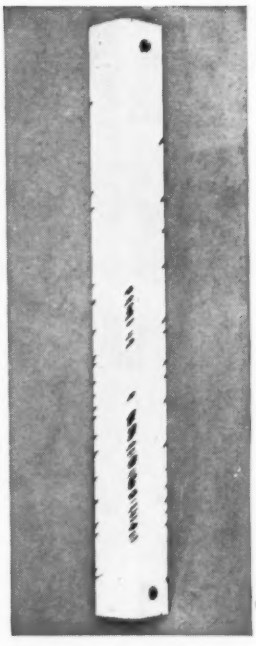
HOWARD WOLF

H. C. WHITELEY

E. H. THOMAS



Enameling iron, with 1 coat of porcelain enamel over Parker Pre-Namel 410, was twisted 255° before enamel fractured.



Enameling iron, with conventional 2-coat system of porcelain enamel, fractured badly when twisted only 70°. (Twisted less than its elastic limit, metal returned to its original shape).

NEWS OF A REVOLUTION
in porcelain enameling

Porcelain enameling on steel has always been a preferred finish. However, its use has been limited by cost and by difficulties in the processing.

Now, a big change is about to take place.

Parker Rust Proof Company's research has discovered and developed a surface treatment for steel which permits the application of the porcelain enamel finish coat directly to ferrous metals, reduces cost, improves quality and eliminates many production difficulties in porcelain enameling. Pilot runs and production tests have shown that the new Parker process is effective and practical.

The new treatment, making use of Parker Pre-Namel 410, has been shown to simplify porcelain enameling, achieve high quality uniform results, reduce use of frit, produce a more durable finish. Savings of from 1 to 3 cents per square foot of enameling surface are indicated.

Now, with Parker Pre-Namel, porcelain enameling may be used more widely, bringing the advantages of this superior finish to more and more products.

Write for full information.

**Bonderite, Bonderlube, Parco, Parco Lubrite, Parker Pre-Namel—Reg. U.S. Pat. Off.*

Since 1915—Leader in the Field

1915 — 40th year — 1955

PARKER RUST PROOF COMPANY

2157 E. Milwaukee, Detroit 11, Michigan

BONDERITE corrosion resistant paint base

BONDERITE and BONDERLUBE aids in cold forming of metals

PARCO COMPOUND rust resistant

PARCO LUBRITE wear resistant for friction surfaces

TROPICAL heavy duty maintenance paints since 1883

→ *from Page 71*

Automatic dipping

RALPH HANNA, Ferro Corporation

THE automatic dipping machine consists essentially of an endless parallel conveyor. At one end a 24-inch drive sprocket engages the chain and at the opposite end a 24-inch take-up sprocket completes the endless conveyor. The workholder station centers are determined by the largest piece of ware to be dipped on the machine, and the standard drive consists of a one and one-half horse power motor complete with magnetic starter and two push button stations, a safety clutch, variable speed pulley, and speed reducer with necessary couplings. A structural steel frame is provided to carry the conveyor, drive and movement stations.

The automatic dipping and draining machine accomplishes the same results as hand-dipping but is far superior because of the following:

1. Increases production, 2. Improves quality, 3. Reduces man-power, 4. Reduces the number of rejects, 5. Saves material.

The monetary savings that result from the advantages listed normally take approximately one to two years to pay off the cost of this machine.

Color systems

WALTER C. GRANVILLE, Container Corporation of America

THE term *color system* usually refers to a collection of color swatches that have been arranged in visual order and notated in terms of basic coordinate color scales.

A color can be positioned in the color world (color solid) just as a city can be located on the globe. The position denotes its relation to other colors and enables a description of the differences between a sample and the standard. These positions, when related to the symbols on the coordinate scales, determine what is called a color notation. Two colors which occupy the same position in the color solid have the same notation and are said to match.

Color systems illustrate only a small fraction of the total number of colors that can be distinguished by a person with normal color vision. However, a color lying between the chips may be notated by interpolation.

Overcoming health hazards in the enameling plant

H. S. KLINE, Frigidaire Division

PREVENTION of occupational illness among porcelain enameling employees requires a knowledge of the processes involved which are capable of creating unhealthy working conditions and the inauguration of the necessary mechanical and safety measures to assure proper protection of workers on various hazardous operations. In the Frigidaire Division of General Motors Corp. an industrial hygiene laboratory was built to engage chemical engineers in evaluating and determining methods for controlling the working environment of company employees.

Certain agencies of the state and industrial hygiene groups have established limits of exposure for a large number of air borne substances found in most industries.

Adequate exhaust ventilating systems have been provided to filter the dust laden air created by grinding, polishing and buffing sheet metal. In addition to the exhaust ventilation, wearing of approved respirators has been applied in the handling of dry materials in the mill room, spray booths and brushing areas, with sprayers being provided air line helmets to insure masked and filtered air.

In the cleaning and pickling of sheet, adequate ventilation is provided to remove irritating mists of chemical solutions.

Insulated gloves and similar protective covering are supplied those in contact with heated parts. Circulating air and shielding are employed in warm areas to reduce the effective temperature.

Continuous screening of dip enamel with an enclosed filter unit

LEROY WILLIAMS, Whirlpool-Seeger Corporation

THE problem of screening ground coat slip without having adequate space for the conventional open screen method was encountered.

The filtration is obtained by pumping the slip, containing lumps and other contamination, between strips of metal separated by spacer pieces of .020-inch thickness placed edgewise to the flow. The solids larger than the space between the strips cannot pass and are collected in the 8-in. sump on the intake side of the unit.

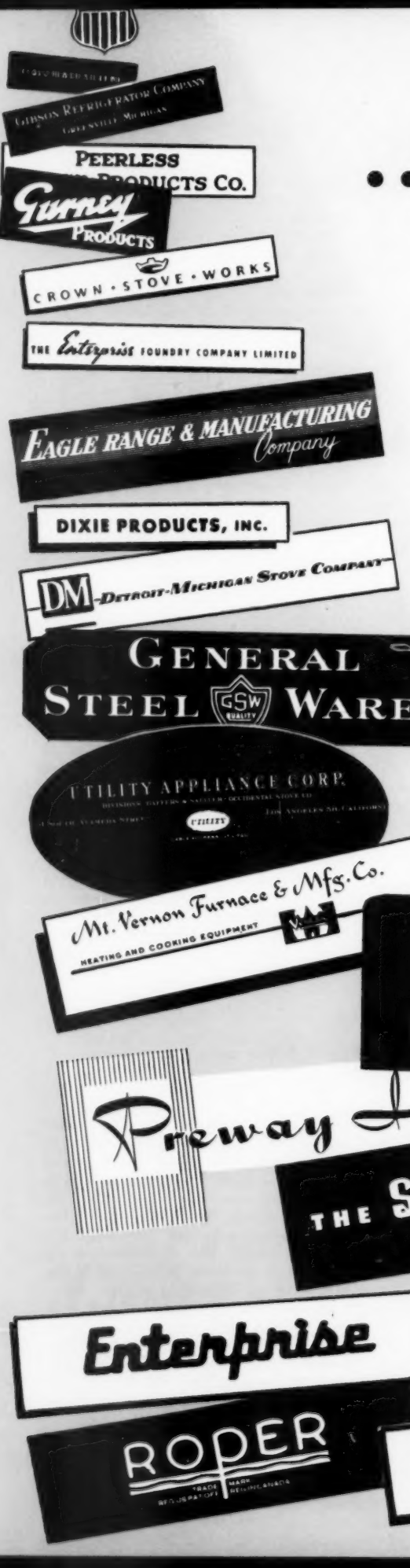
The metal strips are in the form of wheel shaped disks. These disks, supported by a rod, are accurately separated from each other by a spacer shaped to the hub and spokes of the disk, but without the rim. Attached along side the stack of these disks, is a rod holding knife-like stationary cleaner blades which extend into the slots between the disks to the inside edge of the disk rim. The fluid enters the sump, passes through the spaces between the disks, and out one open end of the stack. No solids larger than the thickness of the spacer between the disks can pass through the slots.

The filter is cleaned, without interrupting service, by turning the stack of disks which are attached to a handle that extends out the top of the unit. All accumulated solids are combed out of the slots by the stationary cleaner blades. We have found it necessary to give one or two complete revolutions to the disk once every hour. Though this can be done without stopping the pumping action, it is easier to stop the pump momentarily and then make the cleaning turns. The drain plug is removed and the sump flushed out at the end of every eight-hour shift.

The unit is constructed of cast iron head, drawn steel sump, and stainless steel filter element. It is suitable for flows of fluids up to 30 gallons per minute; however, we only require approximately 11 gallons per minute flow.

..the PERMA-VIEW "No

a valuable sales tool for 46 leading range manufacturers



● These well known names and trademarks represent some of the leading manufacturers of gas and electric ranges who were among the early users of PERMA-VIEW "no fog" windows.

When this ad next appears it will include the insignia of such companies as Avco Mfg. Corp., Hardwick Stove Co., Boston Stove Foundry Co., Athens Stove Works, Inc., A. Belanger, Ltd. and others.

Forty-six leading range manufacturers are now using the "window you can see through always" to meet the constantly growing demand among homemakers for "visible baking."

Let us show you how easily and inexpensively this powerful sales tool can be offered — and the sales results you may expect.

A phone call or letter ... bring an experienced ... gineer to your plant ... prompt consultation.

PHONES: MARKET 4-2... 4-3...

WALLED LAKE, MICH...

"Nog" oven door window

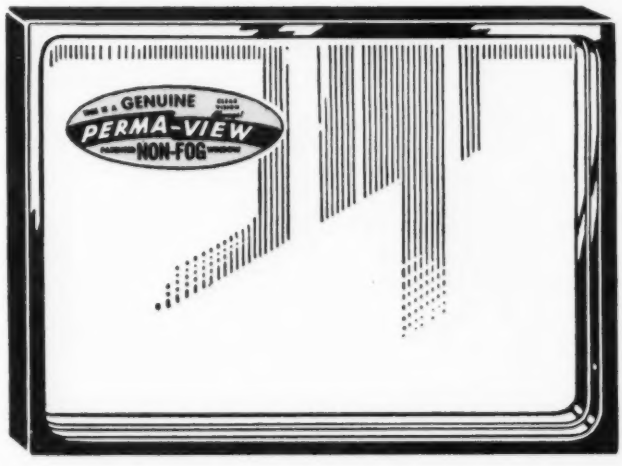
engineered to the product for years of carefree use

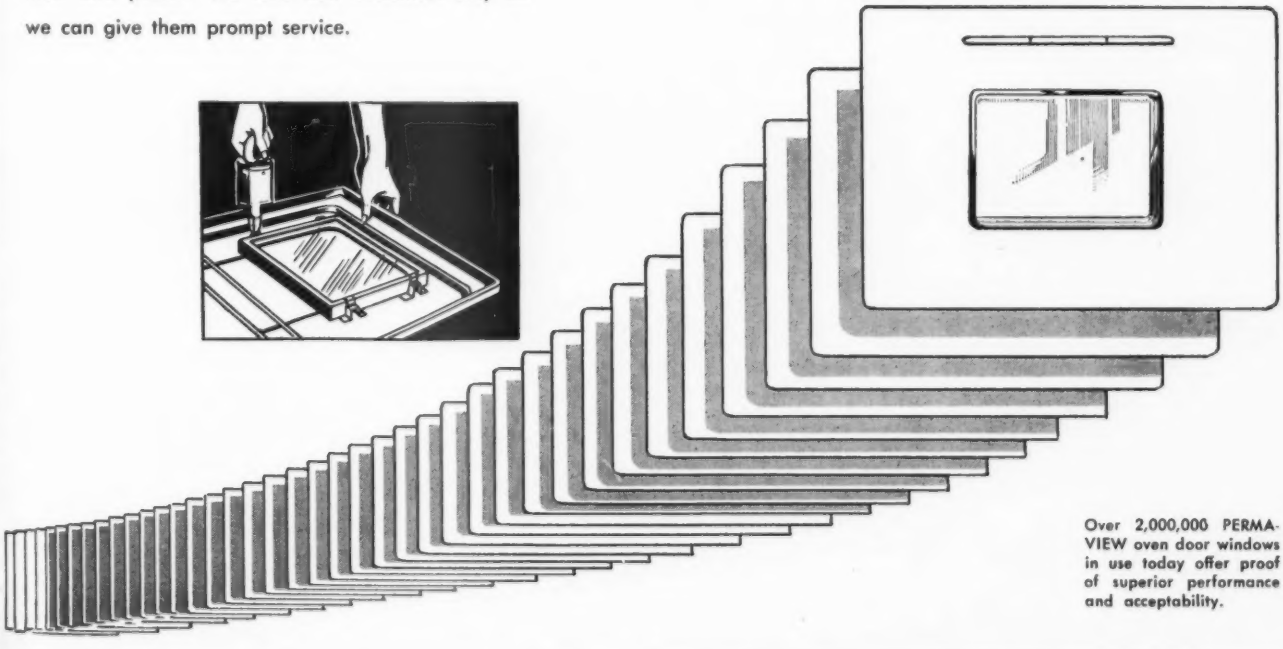
• The PERMA-VIEW window is pre-engineered and comes to you ready for immediate installation in your range. "Out of our carton — into your door."

PERMA-VIEW's crystal clear glass and gleaming chrome lend eye-appeal and salable beauty. The built in seal provides the "no-fog" feature and assures a clearly visible oven interior.

Only top quality materials are used in the Mills' plant, including the heat treated, crystal clear glass and the gleaming chrome plated metal for visible metal components.

Mills' customers have learned to use the efficient manufacturing facilities as a sub-assembly line for their own plants. We take new customers only as we can give them prompt service.





Over 2,000,000 PERMA-VIEW oven door windows in use today offer proof of superior performance and acceptability.

MILLS PRODUCTS, INCORPORATED

1015 W. MAPLE ROAD • WALLED LAKE, MICHIGAN

Phosphatizing auto bodies at Chrysler

(Continued from Page 47)

bodies. In all other zones the conveyor chain is provided with spray guards to minimize its contact with the solutions.

The bottoms of the phosphatizing tanks are cone-shaped to facilitate gathering of the sludge so that it can be removed by the sludge pumps. All solutions are analyzed hourly, and when additions are required, the chemicals are pumped and metered directly from the shipping container into the phosphatizing unit, thus preventing any possible transfer contamination.

Exhausing these huge metal treating units proved a problem. The system now in use exhausts 16,750 cfm from the body unit and 24,900 cfm from the miscellaneous unit. The motors used in the body chamber total 90¾ hp; those in the miscellaneous chamber 157¾ hp.

During design of this installation every precaution was used to increase safety and decrease maintenance. Each burner is operated by a flame rod and pilot, with spark ignition and a flame control to provide positive proof against flame failure. Cast iron bearings and bushings were installed on all pumps rather than the conventional stainless steel type. The theory here is that the stainless steel shafts in the pumps will wear away the softer bearing and bushing material instead of wearing themselves, and it is much easier to replace bearings and bushings than to replace a pump shaft. Seven vertical turbine pumps in the body unit circulate 3610 gallons per minute of solution from the tanks into the spray section; 10 pumps circulate 8320 gallons per minute in the sheet metal unit.

Beyond the phosphatizing unit the treated auto bodies enter a drying oven with an 80-foot effective heat zone operated at 400° F. This assures complete evaporation of all moisture. Beyond the heat zone the bodies pass through a 20-foot cooling tunnel where rapidly circulating air at room temperature cools them sufficiently for painting. After leaving the cooling tunnel the bodies make their first conveyor changeover with wider spacing between them for the priming and paint operations.

While the Chrysler body phosphatizing chamber is by far the largest such installation in the west coast area, company engineers venture a bit farther in describing the miscellaneous chamber and call it "one of the largest of its type in the world."

In any case, the size, cost and complexity of this unit indicate the value placed on a phosphate-type surface treatment to increase the corrosion resistance and improve paint adherence on sheet steel surfaces.

Slow speed sawing of metals

(Continued from Page 50)

a T-shaped part from a forged titanium billet 6″ x 6″ x 8″. Titanium experts had stated that it was impossible to friction saw this piece because of the tendency of titanium to drag and form hard titanium oxide on the saw blading.

The job was tried with a toothed saw. After 16 hours, only one-half inch had been cut, and 20 saw blades were broken. With a toothless saw the required 20 inches were cut in two hours, and only three blades were used. The blades were "homemade" clock spring saws, operating at 4500 sfpm and powered by a 15 h.p. motor.

Previously this had been a milling job. When the part was obtained, the metal removed was in the form of useless chips. By sawing the part, not only were labor savings effected, but the two cut-away portions, worth $320, were available to make into other parts.

Because of the qualifying aspects of toothless, low speed sawing, Ryan does not view it as a replacement for conventional sawing tasks. With between 40 and 50 band saws in operation in the plant, the company feels that a limited number can be adapted to this method where the specific gauges and production needs indicate its usefulness.

Router guide for lightening holes in router template blocks

(Continued from Page 61)

two-inch marker on the six-inch scale. This means the point is precisely two inches from the back side of the router blade.

If the radius required were .003 more than 2 inches, the 2-inch adjustment on the large scale would be made, and the circular scale to add in the thousandths would then be used.

Once the tapered point is properly positioned, it is lowered into the pilot hole of the template to be routed, where it automatically centers.

The operator then turns the crank attached to the top of the vertical shaft. One counter-clockwise revolution of the crank revolves the template in a perfect circle over the router blade. The cut is so exact that no sanding is necessary.

This attachment is saving Temco an average of 15 minutes per form block. It is designed to rout holes up to 8¼ inches in diameter. Any type of form block hole that is located by means of a pilot hole can be precision routed with the attachment, it is stated.

Readers desiring additional information on either of the 2 features concluded in these columns should write to *finish* Reader Service Dept. on your company letterhead.

So Resistant it's tops for home laundries

Guardsman®

PERMAGARD PRIMER

TYPE: Epoxy

COLOR: Gray

APPLICATION: Flocoat, dip or spray

BAKE: 20 min., 375°

GLOSS: High

FLOWING: Excellent; minimum variation in film thickness

FLEXIBILITY: Excellent

STABILITY: Excellent when dipped or flocoated

ADHESION: Excellent to steel, aluminum; good on zinc, cadmium

RESISTANCE: Excellent to detergents, humidity and salt spray

USES: Laundry Equipment, Air Conditioners, Shower Stalls, Beverage Filling Machines and Dispensers, Undersink Cabinets, Dishwashers.

The Better the Finish, the Better the Buy

GRAND RAPIDS VARNISH CORPORATION®

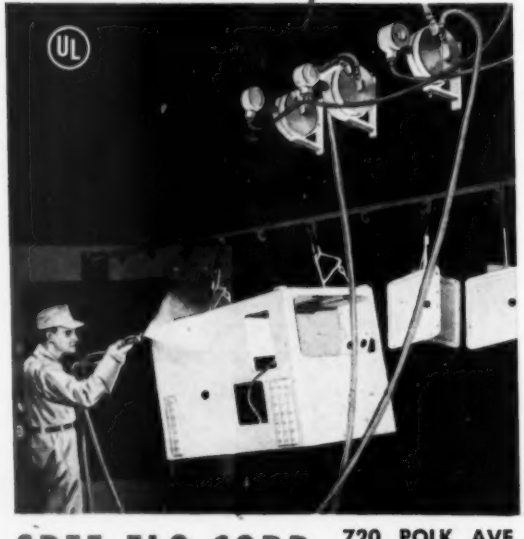
MAKERS OF THE FAMOUS Guardsman® *FINISH AND* Guardsman® *CLEANING POLISH*

GRAND RAPIDS, MICHIGAN

"look how we reduced our production costs with... SPEE-FLO"

5272

- Faster application
- Material savings by reduced overspray
- Better finish
- Reduced rejects



SPEE-FLO CORP. 720 POLK AVE., HOUSTON, TEXAS

SPEE-FLO

HOT SPRAY HEATERS

Ask for an on-the-job demonstration

Don't Delay - Mail Today!

THE SPEE-FLO CORP., Dept. 2x-5, 720 Polk Ave., Houston, Texas

Builders of practical industrial and automotive hot spray equipment.

Please send me information on your line of hot spray heaters best suited to our work. Type of products being finished_____

Application is conveyorized____ turntable____ mobile____ other____

Average volume of material per gun per hour_____

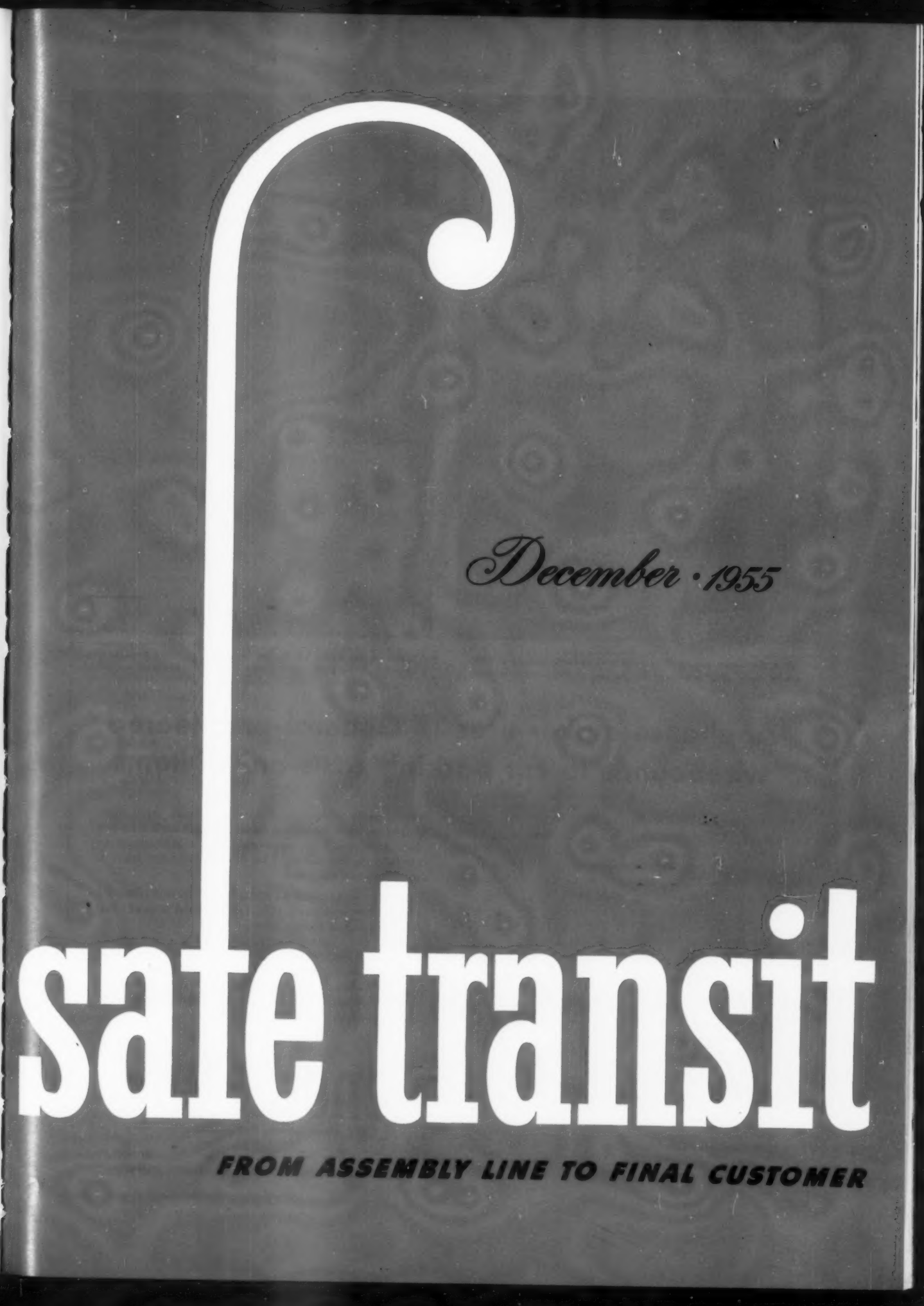
Type of material_____ Please have representative call_____

Name_____

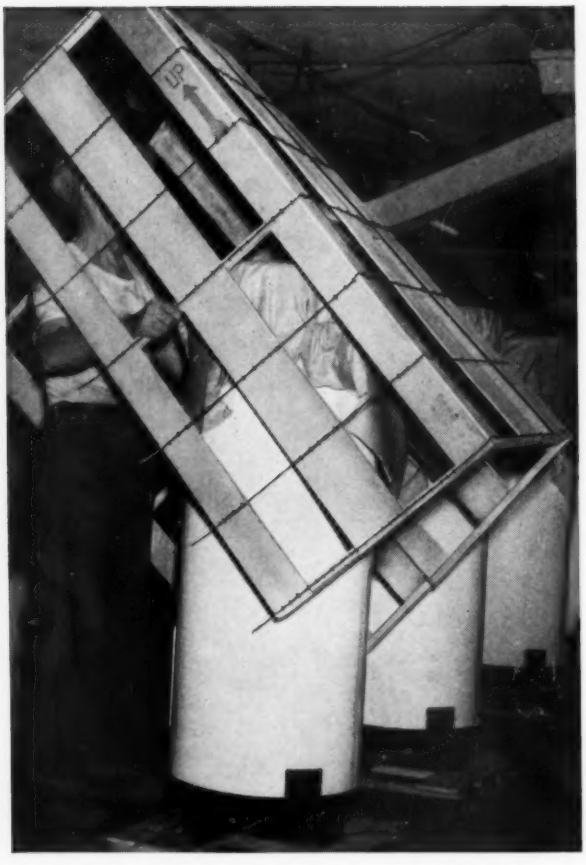
Company_____

Address_____

City_____ State_____


December · 1955
safe transit
FROM ASSEMBLY LINE TO FINAL CUSTOMER

This coal circulator weighs 539 pounds. It's assembled on base of wirebound crate. Total man-hours for packing come to just 6 minutes.



Water heater bases are bolted to wirebound crate base before assembly. At this point, only 3 minutes are needed to complete crating.

Appliance maker uses 17 General-engineered wirebounds to cut packing costs on 47 items

Gray and Dudley Co., Nashville, Tenn., obtained the figures on packing and shipping costs using wirebounds designed by General Box Company, and compared these with the costs of making their own shipping crates. The study covered 47 different designs and sizes of electric water heaters, electric and gas ranges, oil circulators, coal circulators, cast iron ranges, army ranges, and their spare parts. Wirebounds won a clean decision.

Comparison was made on the basis of man-hours for packing, shipping weights, and over-all packing costs. In the case of a 539-pound coal circulator, for example, the saving was 80% in man-hours, 10% in shipping weight, and 16% in over-all packing cost.

The assembly and packing operations were integrated to save handling costs; noise and dust were eliminated, and the appearance of the products in transit was improved. The crated products have a Safe Transit O.K., too.

It's easy to find out how much General-engineered wirebounds can save you. Let us send a man. No obligation. Just write General Box.

Factories: Cincinnati; Denville, N. J.; East St. Louis; Detroit; Kansas City; Louisville; Milwaukee; Sheboygan; Winchendon, Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

Engineered Containers for Every Shipping Need

Wirebound Crates and Boxes • Generalift Pallet Boxes • Corrugated Fiber Boxes • Cleated Corrugated and Watkins-Type Boxes • Stitched Panel Crates • All-Bound Boxes

General Box

1823 Miner Street, Des Plaines, Ill.

★ ★ ★ ★ ★

safe transit

A monthly trade publication section devoted to improved packaging and shipping and materials handling practices in the home appliance and metal products manufacturing field.

Plant experience information for all executives and plant men interested in the problem of packaging and shipping improvement and loss prevention.

Complete information on the National Safe Transit pre-shipment testing program for packaged finished products, and detailed progress reports of divisions and sub-committees of the National Safe Transit Committee.

CONTENTS

NST COMMITTEE ANNOUNCES 200th CERTIFICATION ST-5

REVISION IN PROCEDURE FOR NST PROJECT 1-A ST-5

ORGANIZATION CHART FOR NATIONAL SAFE TRANSIT COMMITTEE ST-7

SMALL PARTS MATERIAL HANDLING AT PACKARD ST-10

SAFE TRANSIT NEWS 104

VERSATILE CRANES SPEED HEAVY DUTY LIFTING 105

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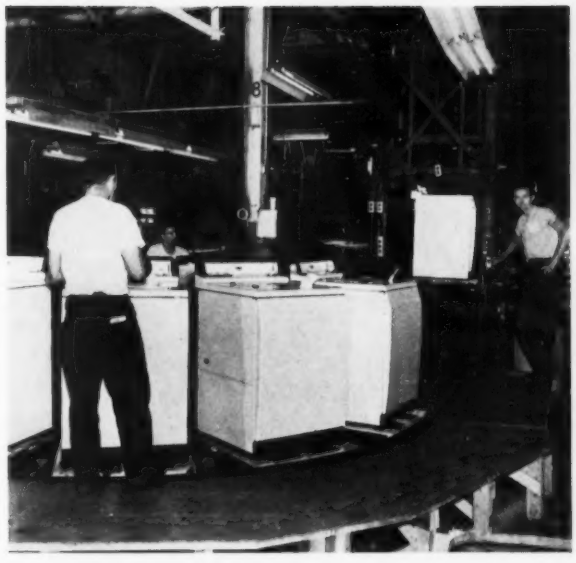
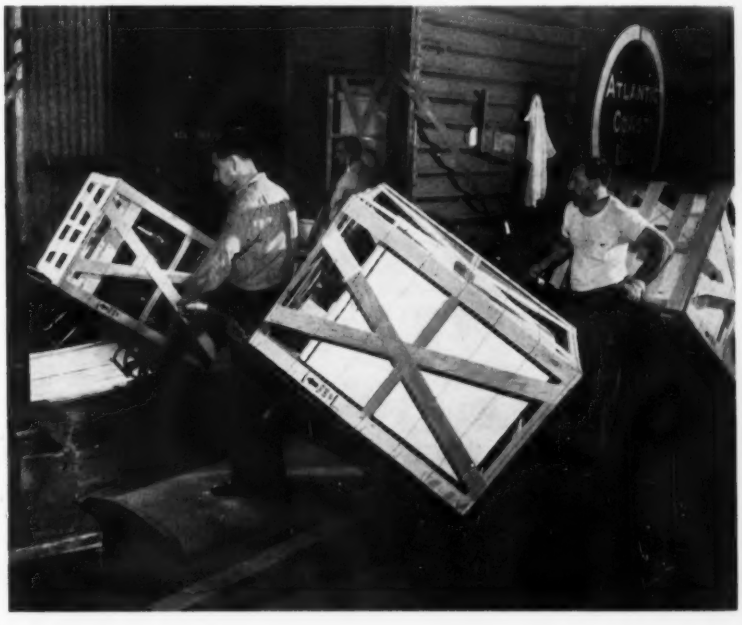


***At Hotpoint** — home laundry equipment gets careful handling. The washer is given a final inspection and is shunted to an automatic elevator after the top and front are attached. The elevator lifts the washer to an overhead roller conveyor system which feeds the packaging department in an adjacent building.*

Handling & shipping at Hotpoint

(A more comprehensive story on a new Hotpoint packaging line will appear in a later issue.)

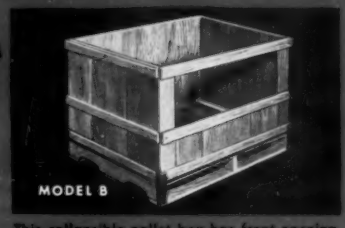
***N.S.T. tested** — home laundry equipment is being carefully loaded for carload shipment. Careful handling with trucks is a most important factor in the safe delivery of appliances. Safe Transit research proves that "handling" is the greatest single source of damaged products.*



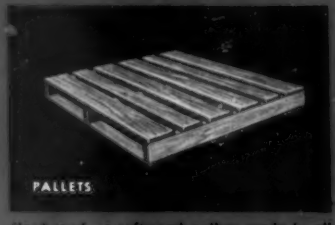
B-G TIGHT-CORNER HINGE AVE

PACKING TIME
STORAGE SPACE
INSURES
SAFE DELIVERY

Pallet Box is easily attached to any standard pallet by means of 4 corner irons and flat or round steel strap. Collapsible for storage and return shipment. We supply corner irons.



This collapsible pallet box has front opening for easy access to contents when stacked or in racks. Furnished with or without self-locking insert panel.



Hardwood or softwood pallets made in all sizes and styles. Nailed with cement-coated drive screws.

B-G expendable pallet box, designed to withstand specific loads. Inexpensive, permitting discard after usage. Top cover, if desired.

B-G Collapsible, hinged pallet box with drop-leaf panel for greater accessibility. All B-G pallet boxes can be furnished with top cover, if desired.

BIGELOW-GARVEY'S

EXCLUSIVE TIGHT CORNER HINGE

stands up under scientific laboratory testing!

● B-G CRATES and PALLET BOXES assure you the utmost in STRENGTH and SAFETY in the shipping and storage of your products.

● B-G Containers are SCIENTIFICALLY ENGINEERED and TESTED in our new, modern laboratory, APPROVED by the NATIONAL SAFE TRANSIT COMMITTEE.

● B-G Unique TIGHT CORNER feature makes possible a sturdy, collapsible hinged container assuring GREATEST ECONOMY in your shipping, handling and storage problems.

● B-G Tight Corner Containers are INDIVIDUALLY ENGINEERED to fit your product.

● B-G invites your inquiries for further information. Sales engineer will call upon request.

● B-G offers without obligation the benefits of 30 YEARS EXPERIENCE in DEVELOPING BETTER, STRONGER and more EFFICIENT Shipping and Storage CONTAINERS.

The collapsible crate with the exclusive B-G Tight-Corner Hinge. Offers unusual rigidity and strength, yet light in weight. Easily assembled. Nail holes pre-drilled. Made up in 3 parts. Shipped collapsed.

Corrugated or fibre board, reinforced with wood cleats. Strong and rigid, gives full coverage. Assembles quickly.

MILLS: ARKANSAS GEORGIA WISCONSIN MINNESOTA ILLINOIS

always check B-G General

Write for complete details and prices to...

BIGELOW-GARVEY lumber company

Office and Laboratory
326 W. HURON STREET • CHICAGO 10, ILLINOIS

Phone WHitehall 4-5252

SLIGHT REVISION IN PROCEDURE FOR NST PROJECT 1A

THE National Safe Transit Committee has announced a procedural revision in its Test Procedures for packaged products weighing less than 100 pounds. In Project 1A of the National Safe Transit Test Procedures, which covers products in the above weight category, provision is made for either a Drop Test or a Conbur Incline Test in test phase No. 2. following the Vibration Test.

Previously the Test Procedures specified 72 inches on the Conbur if the use of the Conbur Incline Testing Device was elected instead of the Drop Test equipment which calls for a drop of 12 inches minimum. This specification requiring the alternative of 72 inches on the Conbur has been revised to read "*5th zone shock on the Conbur*".

The Committee pointed out that this revision is in line with the recommendations and practices in Project 1 of the Test Procedures for products weighing from 100 to 1,000 pounds. The revision thus gives further uniformity to the Conbur Incline Test for both weight classifications.

All specifications concerning the use of the Conbur Incline Testing Device require that a shock recorder be utilized so as to accurately determine 5th zone shock. This is in line with the results obtained by the NST Technical Division from its investigation and study of many different Conbur Incline Testing Devices. The great variation in the performance of these units has confirmed the necessity for use of a shock recorder on each test using the Conbur Incline Testing Device.

NST COMMITTEE ANNOUNCES 200TH CERTIFICATION

R. M. Allan, works manager, Kelvinator of Canada Limited, watches as B. W. Sims, of the company's engineering department, affixes the first Safe Transit label on a packaged refrigerator.

The National Safe Transit Committee has announced the certification of Kelvinator of Canada Limited as the 200th company to participate in its pre-shipment testing Program to reduce in-transit damages.

Commenting on his company's certification, Edward J. Knight of the Engineering Department of the company's London Mfg. Division, said, "During the past year, prior to our certification by the Committee, we have found the Safe Transit test procedures of great value in the development of shipping containers which will provide our product with the protection which will enable our customers to benefit in full from the high quality standards we endeavour to maintain. We are confident that the display of the Safe Transit label on our products while they are in shipment will secure from our friends in the transport industry their utmost co-operation in delivering our products to our customers in perfect condition".

Commenting on the 200th certification, John Oliver, secretary of the NST Committee and of Porcelain Enamel Institute, the sponsoring organization, said, "It marks an important milestone in this industry-wide movement to reduce in-transit damages to an absolute minimum. In 1948, when the Program was launched, our participants were a handful of enthusiastic manufacturers. Today, our certifications include every leading producer in the major appliance field where the Program originated. We are", he added, "also expanding our activities into other fields and already have participating such varied and leading manufacturers as Royal Typewriter Company, Argus Cameras and the Radio and Television Division of Sylvania Electric Products, Inc.

In addition to the 200 companies, 43 laboratories have been certified under the Program on the basis of having installed all the necessary equipment to conduct the Safe Transit tests.

ROBERT GAIR APPOINTMENTS

O. R. Gibbons and Charles M. Hayes have been appointed assistants to the eastern and western folding carton sales managers, respectively, of Robert Gair Co., Inc., New York, J. C. Hendricks, national sales manager of the Folding Carton Div., has announced.

Joseph Hanousek has been appointed sales manager of the New York office to replace Gibbons, and Pierre M. Anderson has been appointed sales service manager of Gair Cartons Div., Piermont, N.Y., to replace Hanousek.

Humbert R. Guzman has joined the sales staff of the Los Angeles Folding Carton Div., Homer G. Murphy, Pacific Coast sales manager, has announced.

more news Page 104 →

EXPORT: Placing a Chicago Mill and Lumber container over a Voronado air conditioner on the O. A. Sutton assembly line.

DOMESTIC: An air conditioner in "offset" type wirebound crate on the dolly of the incline impact test machine.

CHICAGO MILL helps SUTTON *Deliver Safely*

The O. A. Sutton Corporation, manufacturers of air conditioning units and fans, is another one of the leading appliance manufacturers using Chicago Mill and Lumber Company containers to provide safe shipment for their finished product. Where the going is toughest (export) Chicago Mill provides safe delivery any place in the world with hinge-corner plywood. For domestic delivery of large units, wirebound is the answer.

In order to meet the requirements of the growing air conditioning industry, Chicago Mill had its engineers design the best possible container for the protection and shipment of room air conditioners (for domestic or export). The hinged corner plywood container that was developed offers these advantages:

- Maximum protection
- Low cost
- Fast assembly
- You can stack them 20 high for compact storage with a good factor of safety.

Contact your Chicago Mill representative for complete information

Wirebound
Nailed or Hinge Corner
Cleated Plywood
Cleated Craveneer
Cleated Corrugated
Watkins Type Containers
Shop and Tote Boxes
Woodsteel Nesting Boxes

★

FOR DOMESTIC OR EXPORT FOR PEACE OR DEFENSE

A shipping container for every shipping purpose.

FOR SAFER TRANSIT BY • TRUCK • BOAT • TRAIN • PLANE

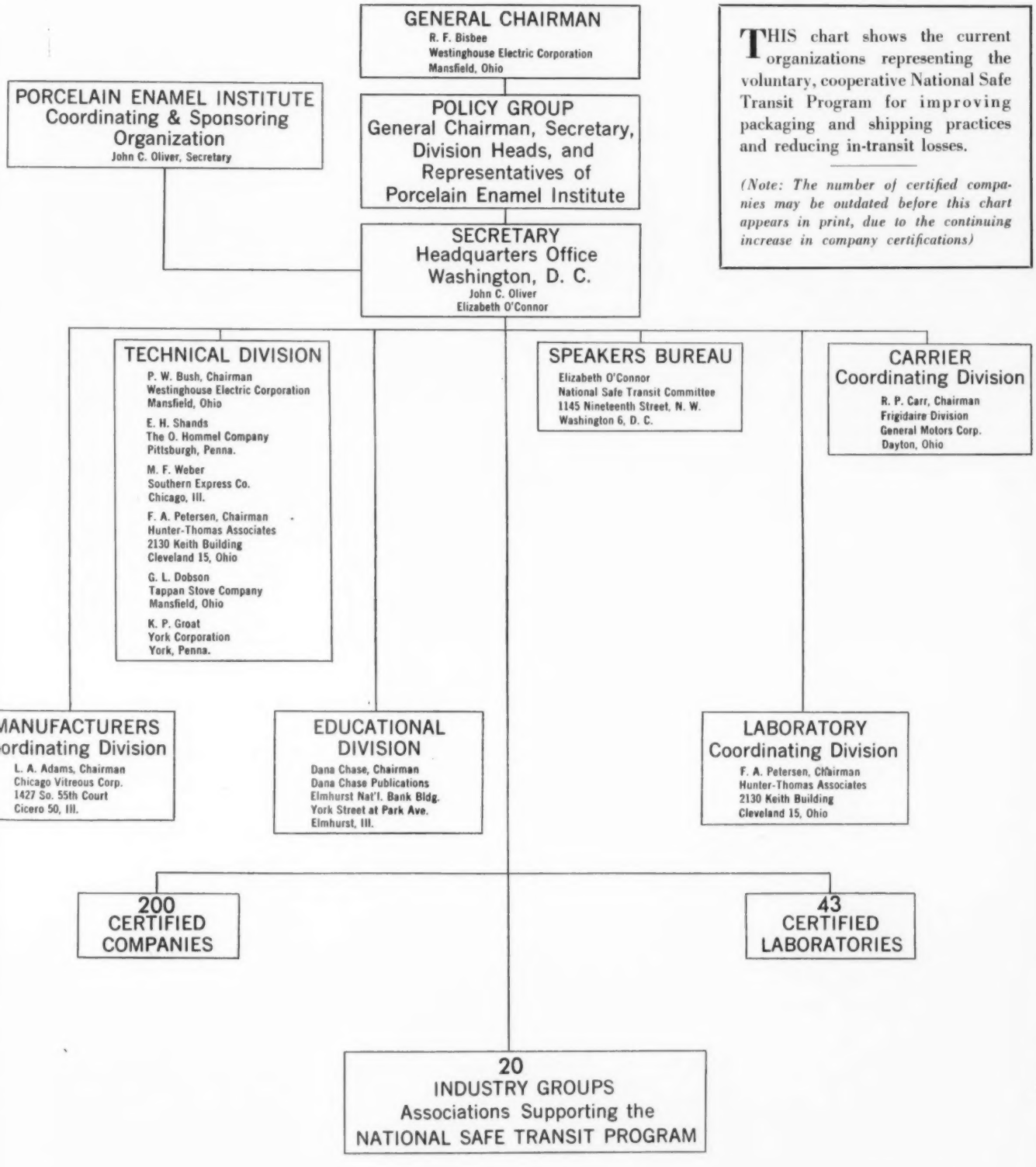
CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street — **Chicago 3, Illinois**

Plants at: Helena, Arkansas • Greenville, Mississippi • Rockmart, Georgia
Tallulah, Louisiana • South Fork, Colorado • Chicago, Illinois

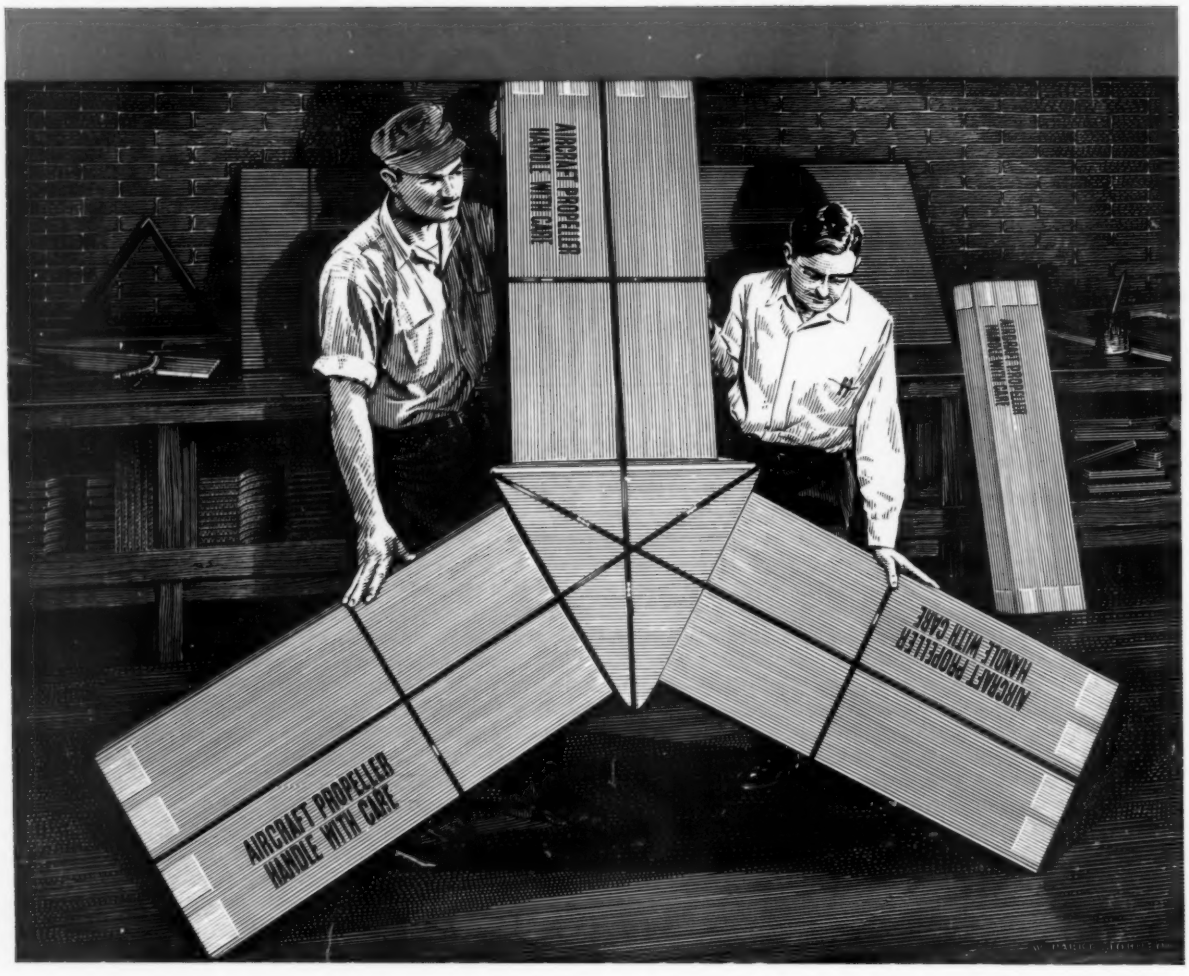
NATIONAL SAFE TRANSIT COMMITTEE

1145 Nineteenth Street, N. W., Washington, D. C.



THIS chart shows the current organizations representing the voluntary, cooperative National Safe Transit Program for improving packaging and shipping practices and reducing in-transit losses.

(Note: The number of certified companies may be outdated before this chart appears in print, due to the continuing increase in company certifications)



FAST PACKING FOR ODD SHAPES

Gaylord Boxes

The three-bladed airplane propeller shown above formerly required a costly, bulky, custom-built shipping container. Today it is packed for safe shipment with production-line efficiency... in a specially developed, lightweight Gaylord corrugated container.

Whatever the size, shape or texture of your product... its unusual requirements are a challenge to Gaylord container design engineers. Let us explore the possibilities for packing your product in a modern, money-saving corrugated container. Call your nearby Gaylord office.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

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SALES OFFICES FROM COAST TO COAST ★ CONSULT YOUR LOCAL PHONE BOOK

ST-8

SIGNODE Strapping Station Handles Interlocking Flange Containers—2 a Minute

Here is high-speed, conveyorized production line packaging equipment that enables two men to fold, hold and strap *two* complete interlocking flange containers per minute . . . 120 an hour!

S-75 handles containers up to 41" x 50"

This conveyorized strapping station can handle containers ranging in width from 18" to 41" . . . and in length from 18" to 50". Adjustment for width is made in a matter of seconds. Adjustment for length is provided automatically by a set of five spring-loaded stops.

Offers new ways to cut costs

The S-75 Strapping Station breaks the bottleneck that formerly restricted the use of interlocking flange containers, and the savings in strapping time, strap used, manpower and handling time alone will quickly pay for this low-cost, profitable conveyorized strapping installation. For complete information write:

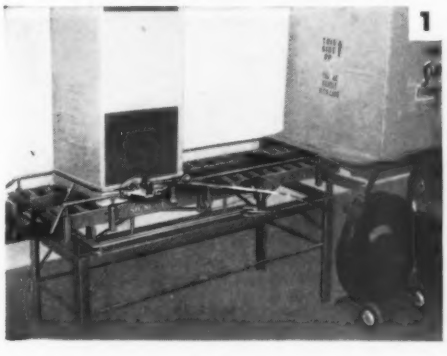
SIGNODE
STEEL STRAPPING COMPANY
2639 N. Western Ave., Chicago 47, Ill.

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

In Canada: Canadian Steel Strapping Co., Ltd., Montreal, Toronto
Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide

(1 & 2) Rails hold folded side flaps. The forward stop (photo #1) holds front flap. Spring-loaded stops (photo #2) rise automatically as container passes over them to hold rear flap. Steel strapping is passed around the container, and is tensioned and sealed by a Signode sealfeed strapping machine. A special tool mount and balance arm hold the machine at the right level for strapping. When the machine is depressed it is disengaged and the front stop is released, so the container can move on down the line to the next position.

(3) Top cap is folded and held in position by a simple jig. Strapping tool, suspended from a spring balancer, tensions and seals the draped strapping.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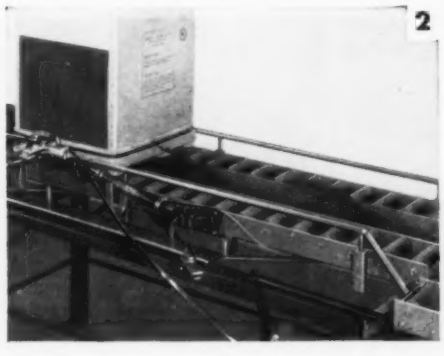
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3

Illustrating the ultimate in rapid assembly of Rocker Arm. Note parts are within pivot-reach of operator. Major components are fed to operator through special hoppers that utilize original cartons, thus eliminating possibility of damage or dirt prior to assembly.

Four Barrel Carbureter assembly adjacent to main motor assembly line. Note protection of small parts prior to assembly and neat, clean work space. Note multi-part operation being performed with minimum use of space, a ready accessibility of small components.

Small parts materia

conveyors, hoppers and plant la

THE whole subject of small parts materials handlin and feeding those parts into a complex assembl operation is illustrated by the accompanying photo graphs, which show but a very small part of the treme dous task confronting the materials handling engineer at the Utica plant of the Packard Division of Stud baker-Packard Corporation.

Modern manufacturing experience is confirming th contention of qualified materials handling engineer that careful attention to small parts control is one the basic keys to plant efficiency. Parts loss and damag are eliminated. Housekeeping is made easier and hig standards of quality are maintained through Packard carefully thought out methods of small parts handling

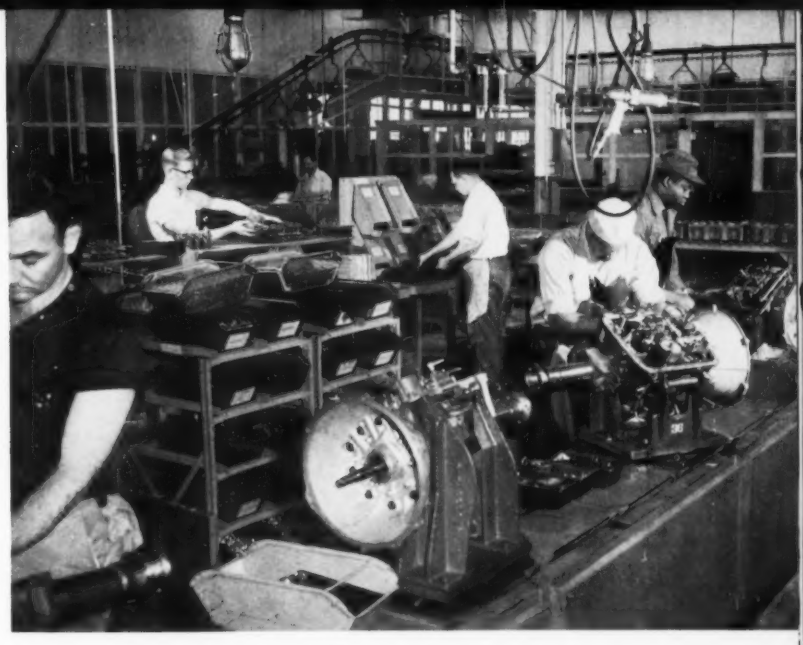
In critical areas of assembly and production, suc

eri andling at Packard

nt la bine to minimize handling • • •

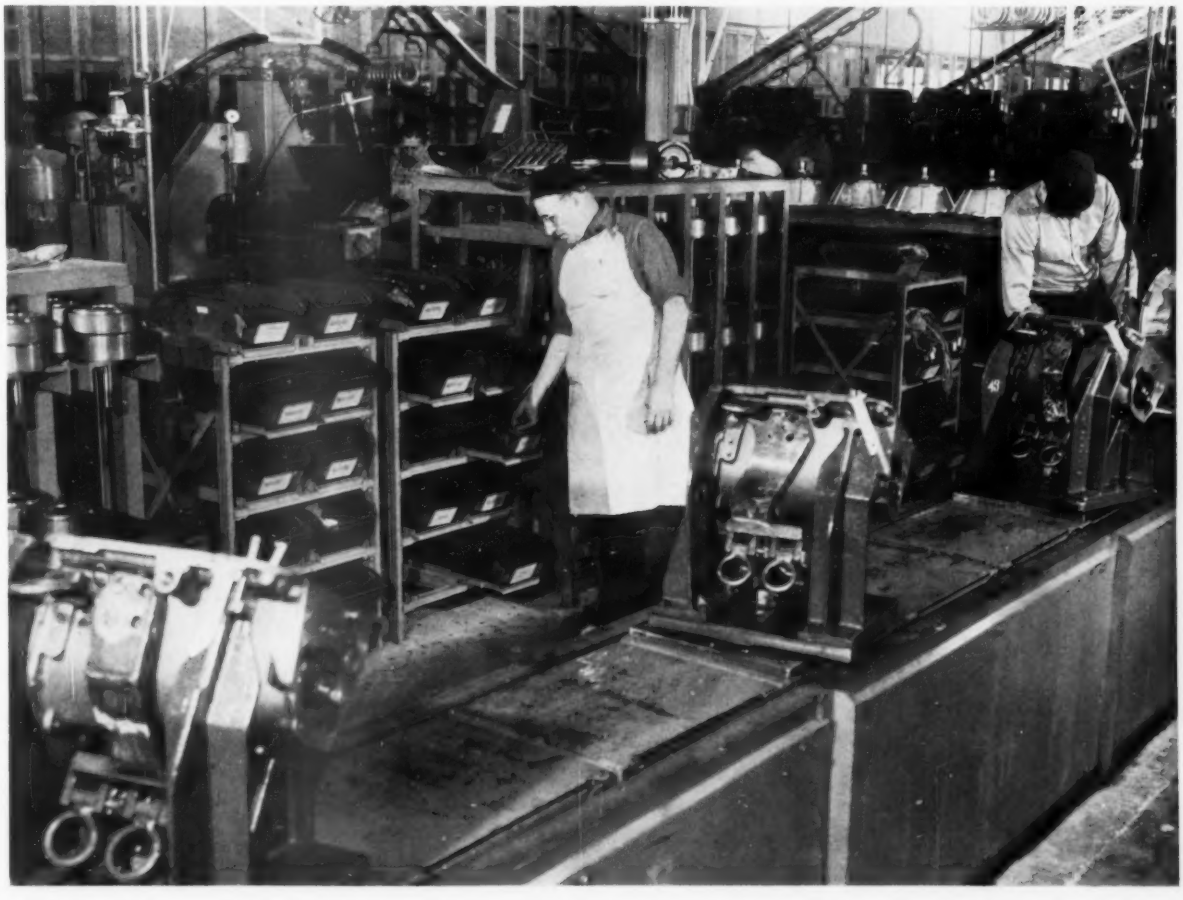
handlin s the transmission and motor areas, dirty, dusty and assembl arelessly handled parts cannot be tolerated. Provision g photo o control those factors are represented by the com- e treme ination of equipment, plant layout and methods which engineer form the basis for the efficiency evident at the Utica of Stud plant.

Control is maintained from the moment of arrival at rming th he receiving docks, through storage and onto the engineer ssembly lines at the exact point of use. Handling and is one o rehandling is kept to a minimum by using equipment d damag nd containers that protect as well as dispense the and hig parts. Empty containers that nest into each other Packard conserve work space, a feature that contributes to the handling pen and uncluttered atmosphere of the operation. ion, suc

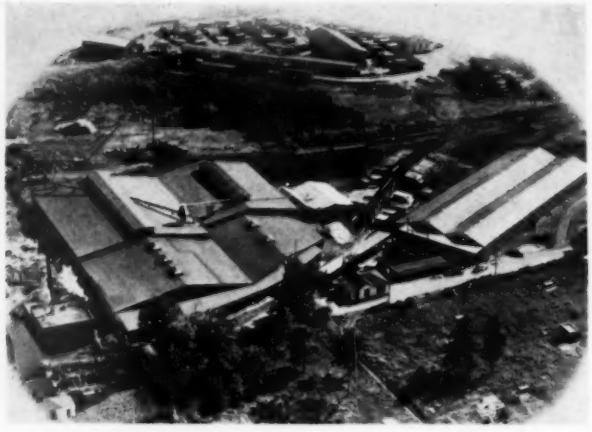


Showing sub-assembly of valve bodies and complex use of small parts along the transmission assembly line. The entire operation is enclosed in a special pressurized and air conditioned area which controls dust and damage to parts and assemblies.

Note care and easy accessibility of small parts. Sliding parts boxes provide maximum visability to eliminate error in selection of parts. All required small parts are within easy reach of the mechanic, and the sub-assembly is delivered to the work area.



RATHBORNE, HAIR & RIDGWAY 100TH ANNIVERSARY



One of six Rathborne, Hair and Ridgway plants, the wirebound box plant at Jackson, Miss.

This year Rathborne, Hair & Ridgway Box Co., Chicago, is celebrating its 100th anniversary. In 1855 George Herbert, a Chicago attorney, founded the original planing mill and box factory. After a series of partnerships, mergers and alliances, in 1898 the company attained its present form and name.

Rathborne, Hair and Ridgway operates plants and mills in Chicago, Jackson, Miss., Savannah, Ga., Maringouin, La., Jackson, Ala., and Deep River, Minn. for the production of shipping containers.

The company has published a hand bound fifty-two page book telling the story of its first 100 years.

Supplier News

→ *from Page 85*

SPRUANCE RETIRES AS VP OF AMERICAN CHEMICAL PAINT

F. P. Spruance, Sr., who has been a vice president of American Chemical Paint Co. and sales manager of the Metalworking Chemicals Div. for more than 30 years, resigned and is succeeded by F. P. Spruance, Jr.

Spruance, Jr. joined the company in June, 1944, as a research chemist and became assistant sales manager of the Metalworking Chemicals Div. in 1953.

Spruance, Sr. will continue as a director, serving in a part time advisory and consulting capacity.

PROGRESS MFG. PURCHASES JUDSON & ROSE

Progress Mfg. Co., Inc. has acquired Judson & Rose, Inc., Philadelphia, announced Maurice Rosen, Progress president.

Cut shipping losses with L.A.B. Package Testers

We were the original developers of this type of package testing equipment and our machines were used in evolving the test procedures recommended by the National Safe Transit Committee and the American Society for Testing Materials. Only genuine L.A.B. testers are backed by 15 years' experience in the plants of America's leading manufacturers.

We are an ASTM certified laboratory

WIDE RANGE OF TYPES, SIZES OFFERED BY L.A.B.

- Incline-Impact (Conbur) testers – 400-10,000 lb. capacity.
- Vibration testers – 400-10,000 lb. capacity – tables to 8' x 12'
- Drop Testers – packages up 100 lb.

WRITE FOR CATALOG

L.A.B. Corporation Skaneateles 4, N.Y.

INLAND STEEL 3-YEAR EXPANSION PLANS

Inland Steel Co., Chicago, has announced a three-year expansion program for its basic steel plant at East Chicago, Ind., that will lift steelmaking capacity 15% to 6,000,000 tons of ingots annually by 1959.

Included will be new blooming mill, a second completely new cold rolled sheet department, an increase in the capacities of the hot strip mills and increases in auxiliary equipment.

PENNSALT TO BUILD KENTUCKY PLANT

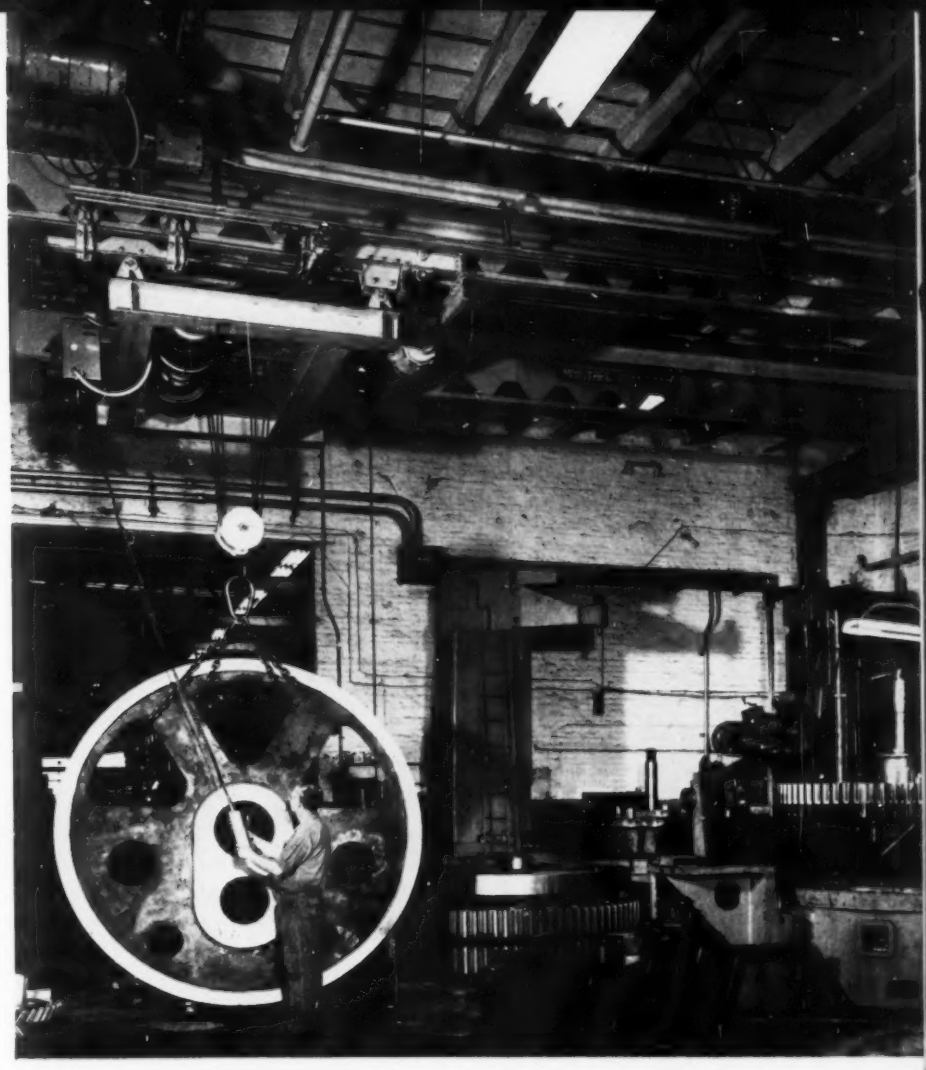
The addition of a large organic fluorine chemicals plant at Calvert City, Ky., will inaugurate the Pennsylvania Salt Mfg. Co.'s projected expansion program, president William P. Drake, has announced.

U. S. STEEL EXPANSION PLANS

United States Steel Corp., Chicago, has announced that it will install a complete new line for the production of USS vitrenamel sheets and other special sheet products at its Irving Works, Dravosburg, Pa.

KAWNEER BUYS CANADIAN FIRM

Acquisition of Weatherstone Windows, Ltd., Toronto, fabricator of aluminum windows and curtain walls, by Kawneer Co., Niles, Mich., was announced recently. (see *foto news*, page 64)



Gears come big at Verson Allsteel Press Company. Here the double girder underhung crane is being used to move a blank, approximately 104″ in diameter, to the cutting machine in the background. When the job is completed, the same crane will be used to move it from the machine to temporary storage.

Versatile cranes speed heavy duty lifting

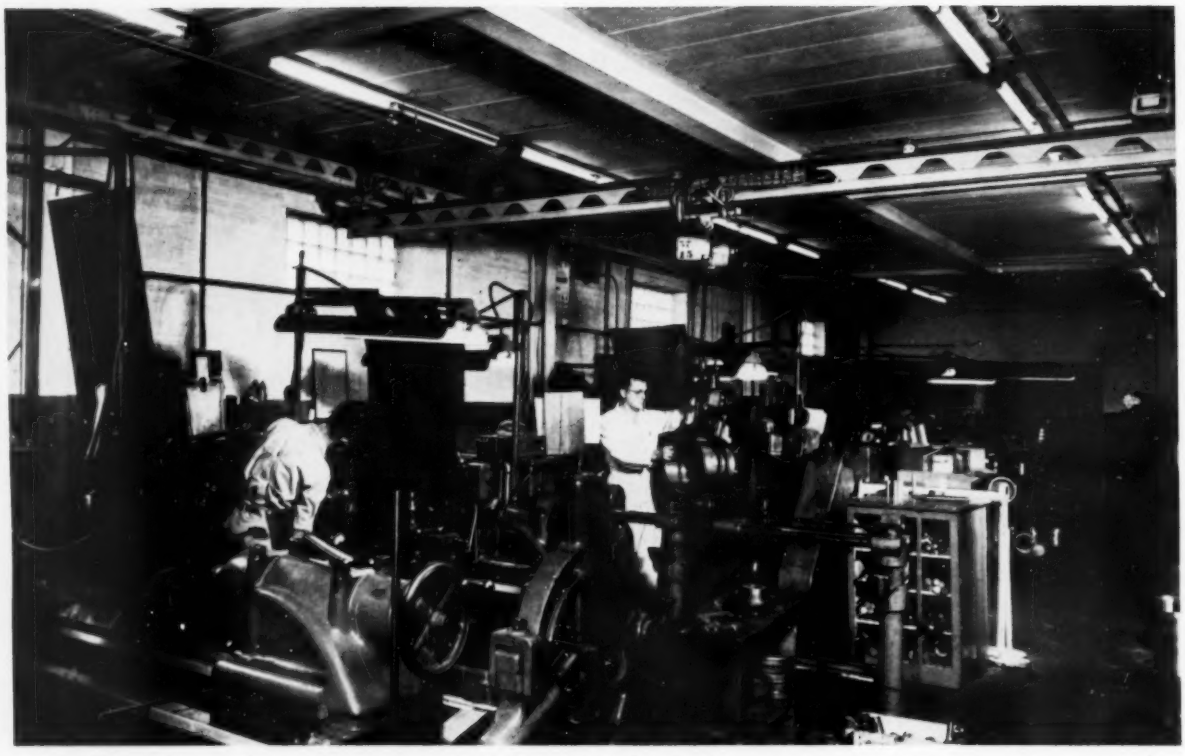
AN underhung, versatile crane system, permitting one-man, push-button control of loads up to ten tons, has enabled Verson Allsteel Press Co., Chicago, to expand substantially its gear cutting operations so important to manufacture of the company's huge stamping presses.

In setting up a new bay for gear cutting, Verson sought an overhead handling system rugged enough to handle heavy loads yet requiring a minimum investment in both equipment and installation costs. The resulting installation included two cranes of 10 tons capacity each. One has a 32′ span and the other has a 37′ span. Combined, they provide complete area coverage of the bay.

The two cranes serve seven vertical boring machines and are in continuous use handling a variety of press components which range from small parts up to gear blanks of 120″ diameter.

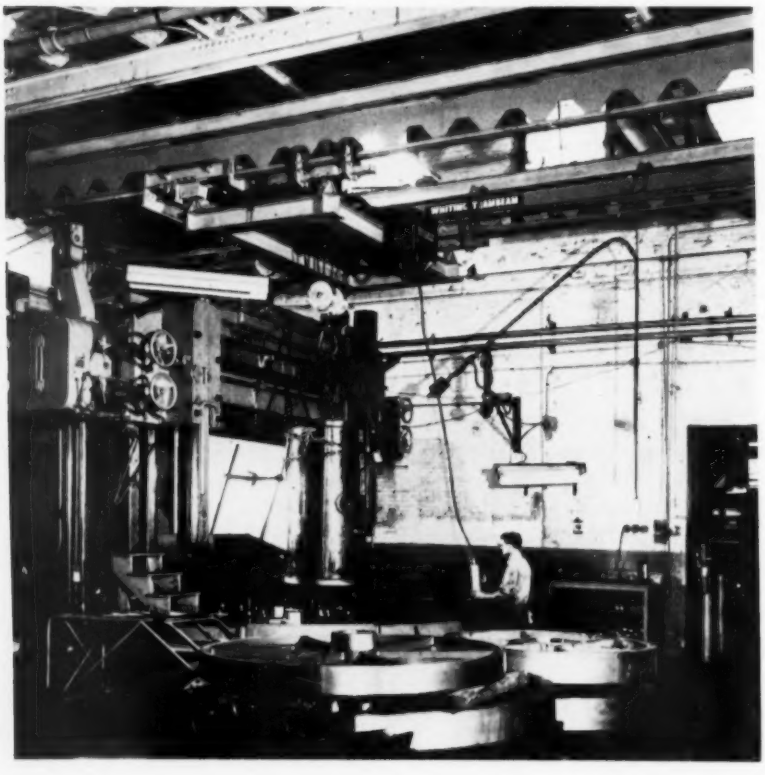
Operators of the vertical boring machines perform all handling incident to moving work to and from their machines. Bridge, trolley and hoist motion of each crane is controlled by pendant push button; the operator at all times sees exactly where his load is going.

Verson also makes use of other similar installations (lower tonnage) in its tool grinding and lathe departments. Each of these departments is served by a single girder, one-ton, hand-pushed crane, using an electric



In the lathe shop a single girder crane and electric chain hoist provides complete area coverage. Both crane and hoist carrier are hand-pushed.

A hydraulic cylinder weighing 8250 pounds is being moved into position in the vertical boring mill by crane. All handling in this area is done by the same men who operate the machines.



chain hoist for safe, fast handling of parts to and from machines. All these installations — the 10-ton cranes and the 1-ton cranes — have a common quality. They provide precision handling of expensive parts in important production processes.

A typical handling sequence in the gear cutting bay involves the following steps: (1) Moving gear blank from incoming truck to temporary storage. (2) Lifting and transport of gear blank to machine for cutting. (3) Moving completed gear from cutting machine to temporary storage. (4) Lifting completed gear to outgoing truck.

Crane bridges are powered by two tractor drive units, each using a 1 h.p. motor. Bridge speed is 90 feet per minute. The double girder carriers also use a 1 h.p. motor with a chain and sprocket drive. Carrier speed is 65 feet per minute. The 10-ton capacity hoist in each crane has a maximum lift of 15½ feet and a lifting speed of 14 feet per minute.

Institute of Appliance Manufacturers

Year-End Conference

Netherland Plaza, Cincinnati, December 5 & 6

TENTATIVE PROGRAM

MONDAY

Gas Heating Division — chairman, F. Donald Hart, executive vice president, Temco, Inc.
speakers, Daniel Collins, sales engineering manager, Peoples Gas Light & Coke Co., Chicago, and Howard Bourner, S.I.D., industrial designer from Nashville, Tennessee

Oil Division — closed session

General session — speakers, Richard Harkness, commentator for the National Broadcasting Company, and James M. Dawson, vice president and economist for National City Bank of Cleveland

TUESDAY

President's report — "An Inventory of the Institute's Assets"
W. Frank Fisher, vice president and general manager, John Wood Company, Bengal Range Division

Keynote address — "Let's Take Stock of The Major Appliance Industry"
Elisha Gray, II, president, Whirlpool-Seeger Corporation

Panel discussion — Stock Taking of Our Own Companies

Built-in Appliances — chairman, George T. Stevens, president, George T. Stevens and Associates
Speakers, Howard Ketcham, color stylist and Paul Vignos of the Berger Division of Republic Steel

Oil Division — chairman, William H. Hohmeyer, manager, sales research and promotion, Detroit Controls Corporation

EASTERN ENAMELERS CLUB MEETS, ELECTS OFFICERS

finishfoto

Left to right: Patrick, Butters, Clay and Hannon.

Some 50 members of the Eastern Enamelers Club met in Philadelphia on November 5th for the dual purpose of electing new officers, and to hear an authoritative rundown on the current status of a new one-coat process for applying porcelain enamel on steel.

On recommendation of the Nominating Committee, the following officers were unanimously elected for two-year terms: Cliff Clay of Kaiser Metal Products, President; Phil Butters of O. Hommel Co., Vice President; Alexis J. Hannon of Heintz Manufacturing Co., Secretary; and Robert F. Patrick of Pemco Corp., Treasurer. Both Hannon and Patrick were returned to office for consecutive terms.

Three papers were delivered on the new one-coat enameling process. One paper, by Dr. G. H. Spencer-Strong of Pemco Corporation, defined the requirements of a successful one-coat system. A second paper by Dr. Robert C. Gibson, of Parker Rust Proof Co., described the Pre-Namel 410 chemical treatment used in the one-coat system, while a third paper by W. H. Pfeiffer, Frigidaire Division of General Motors Corporation, detailed experiences encountered in prototype production application of one-coat systems.

Summaries of these papers were published on pages 73-74 in the November issue of finish.

PORCELAIN ENAMEL RESEARCH AT MELLON INSTITUTE

A Ceramic Fellowship at Mellon Institute, Pittsburgh, Pennsylvania, under the donorship of the O. Hommel Company is now in its twenty-first year of effort to improve porcelain enamel coatings.

A recent Activities Report for 1954--1955 lists T i t a n i a-opacified cover-coat enamels as one of the chief projects getting continued attention.

"Currently", states the report", the search for basic information relating to alkali resistance of porcelain enamel is warranted by the demands of modern day applications and service conditions encountered in the major appliance field. Coupled with this problem are the ever-present objectives of improved acid resistance, application techniques and appearance. Since all of these properties must be incorporated into a single glass, the science of enamel formulation requires a careful control of many variables, any one of which can affect seriously the finished product. A delicate balance of all constituents, based on the knowledge of their individual characteristics, is necessary to achieve satisfactory results."

ADVERTISERS' INDEX

	PAGE
ACKERMANN MFG. COMPANY	8
ARMCO STEEL CORPORATION	1
BIGELOW-GARVEY LUMBER CO.	ST-4
CENTURY VITREOUS ENAMEL CO.	66, 67
CHICAGO ALLIS MFG. CORP.	29
CHICAGO MILL & LUMBER CO.	ST-6
CHICAGO VITREOUS CORP.	77
CINCINNATI CLEANING & FINISHING MACHINERY CO.	33
CUYAHOGA SPRING COMPANY	76
DANIELSON MFG. CO., V. W.	51
DU PONT DE NEMOURS COMPANY, INC., E. I.	20
DETREX CORPORATION	15
FEDERAL MACHINE & WELDER CO.	78
FERRO CORP.	41
FIRESTONE INDUSTRIAL PRODUCTS COMPANY	30
FOSTORIA PRESSED STEEL CORP.	14
FOLLANSBEE STEEL CORPORATION	11, 16
GAYLORD CONTAINER CORP.	ST-8
GENERAL BOX COMPANY	ST-2
GENERAL INDUSTRIES	22
GLIDDEN COMPANY, THE	83
GRAND RAPIDS VARNISH CORP.	91
GREAT LAKES STEEL CORP.	18
GRINDING & POLISHING MACHINERY CORP.	76
HOMMEL COMPANY, THE O.	9
INGRAM-RICHARDSON, INC.	44
INTERCHEMICAL CORPORATION	53
INTERNATIONAL NICKEL CO.	10
KAISER ALUMINUM & CHEMICAL CORP.	75
L. A. B. CORPORATION	ST-12
LUX CLOCK MFG. CO., THE	36
MACCO PRODUCTS COMPANY	6
MAHON COMPANY, THE R. C.	45
MARSCO MANUFACTURING CO.	56
MILLS PRODUCTS, INC.	88, 89
MOTORESEARCH COMPANY	19
NEWCOMB-DETROIT	19
NEW PROCESS D-ENAMELING CORPORATION	84
NU-MATIC GRINDERS, INC.	52
PARKER RUST PROOF COMPANY	86
PATTERSON FOUNDRY & MACHINE CO.	2nd COVER
PEERLESS WIRE GOODS CO.	76
PEMCO CORPORATION	72
PETERS-DALTON, INC.	48
PORCELAIN ENAMEL INSTITUTE	68
PYRAMID MOULDINGS, INC.	7
RANSBURG ELECTRO-COATING CORPORATION	12, 13
REYNOLDS METALS COMPANY	4, 5
ROLL FORMED PRODUCTS COMPANY	31
SIGNODE STEEL STRAPPING COMPANY	ST-9
SORENG PRODUCTS CORP.	28
SPEE-FLO COMPANY, THE	92
TITANIUM PIGMENT CORP.	63
TUTTLE ELECTRIC PRODUCTS, INC.	4th COVER
UNIVERSAL SCREW COMPANY	21
VANCE INDUSTRIES, INC.	19
VERSON ALLSTEEL PRESS CO.	2
WATKINS CONTAINER MANUFACTURERS	3rd COVER
WEAN EQUIPMENT CORP.	54, 55
WHEELING STEEL CORP.	58
YOUNGSTOWN SHEET & TUBE COMPANY	60

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Should have at least five years experience in gas range or related field dealing with heat transfer problems; good education or experience in product design; and ability to work with top management.

Submit details of experience, education and salary desired. All replies confidential. Address reply to Box 1251, c/o *finish*, York St. at Park Ave., Elmhurst, Ill.

CHIEF DESIGN ENGINEER

To take complete charge of design division of a nationally known multi-plant appliance manufacturer. Applicant must be a graduate engineer under 45 with a minimum of 3 years supervisory experience. Chicago area location. Give complete details, including salary desired. Replies confidential. Address reply to Box 1250, c/o *finish*, York St. at Park Ave., Elmhurst, Ill.

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WHIRLPOOL-SEEGER UPS BURT

Jasper F. Burt has been appointed plant manager for Whirlpool-Seeger Corp., of the La Porte Aircraft Div., La Porte, Ind.